

Service Manual

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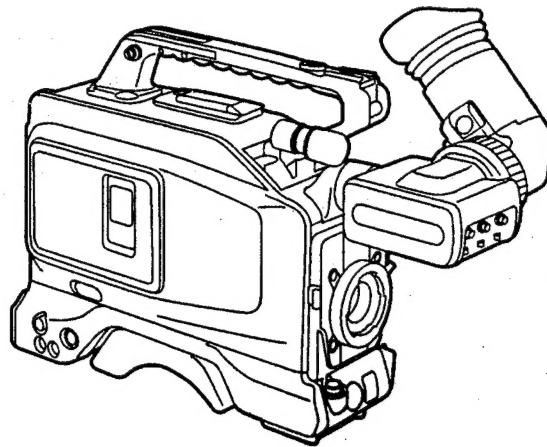
Sec. 7 *Circuit Board Diagrams*

Sec. 8 *Exploded Views &
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DMCPRO

Digital Camera Recorder

AJ-D200HE



Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Specifications

[GENERAL]

Power supply:	DC12 V (10.5V to 17.0V)
Power consumption:	17W (main unit including viewfinder)

Operating ambient temperature:

0°C to 40°C

Storage ambient temperature:

-20°C to 60°C

Operating ambient humidity:

Less than 80% (relative humidity)

Continuous operation time:

Approx. 100 minutes

(with Anton Bauer Trimpack 14, continuous recording time)

Dimensions

(W × H × D):

126 × 292 × 337 mm

Weight:

3.7 kg for main unit only

6.1 kg for with NP-1 battery, viewfinder, Fujinon 14× lens, 123-minute tape

[CAMERA]

Image sensor: 1/3" IT-type CCD with on-chip lens (pixel shift system) ×3

Pixels: 542 (H) × 584 (V)

Horizontal drive frequency:

11.25 MHz

Sensitivity: 2000 lux, f/5.6

Minimum illumination: 5 lux (f/1.4 +18 dB)

S/N ratio: 58 dB (TYP)

Horizontal resolution: Approx. 500 lines (centre)

Vertical resolution: 500 lines

Sampling frequency: 13.5 MHz/27 MHz

Shutter speeds: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000

Gain selection: 0/6/12 dB or 0/9/18 dB

Lens mount: 1/3" bayonet mount

Colour separation optical system:

Prism system (f/1.4)

Registration error: Less than 0.03% (full range, excluding lens distortion)

[VIEWFINDER]

Display tube: 1.5" high-resolution monochrome tube

Horizontal resolution: 600 lines (centre)

External controls: BRIGHT, CONTRAST, PEAKING controls,
TALLY ON/OFF, ZEBRA ON/OFF, CHARACTER ON/OFF switches

[VTR]

Tape speed:

[CONNECTORS]

INPUT

[ACCESSORIES]

1.5" viewfinder

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M}\Omega$ and $5.2\text{M}\Omega$.

When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

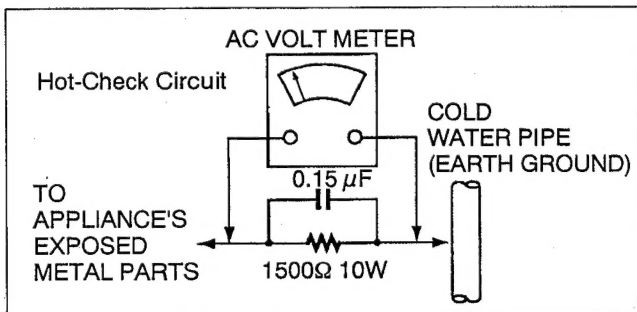


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet.
Do not use an isolation transformer for this check.
2. Connect a $1.5\text{K}\Omega$, 10W resistor, in parallel with $0.15\mu\text{F}$ capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.
NOTE: It is important to use an accurate periodically calibrated high voltage meter.
3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV , $\pm 0.15\text{kV}$. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

■ **DO NOT REMOVE PANEL COVER BY UN-SCREWING.**

To reduce the risk of the electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Lithium Battery

Warning

The lithium battery in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

"The lithium battery is a critical component (type number CR2032 or BR2032 manufactured by Panasonic.)

It must never be subjected to excessive heat or discharge. It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacturer. They must be fitted in the same manner and location as the original battery, with the correct polarity connections observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose. It should be disposed of in waste products destined for burial rather than incineration."

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.


ADVARSEL!

Eksplussionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

VAROITUS

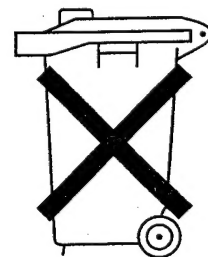
Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyypiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

 indicates safety information.

Attention/Attentie

- Batteries are used for the main power source and memory back-up in the product. At the end of their useful life, you should not throw them away. Instead, hand them in as small chemical waste.
- Voor de primaire voeding en het reservegeheugen van het apparaat wordt gebruikgemaakt van een batterij. Wanneer de batterij is uitgeput, mag u deze niet gewoon weggooien, maar dient u deze als klein chemisch afval weg te doen.



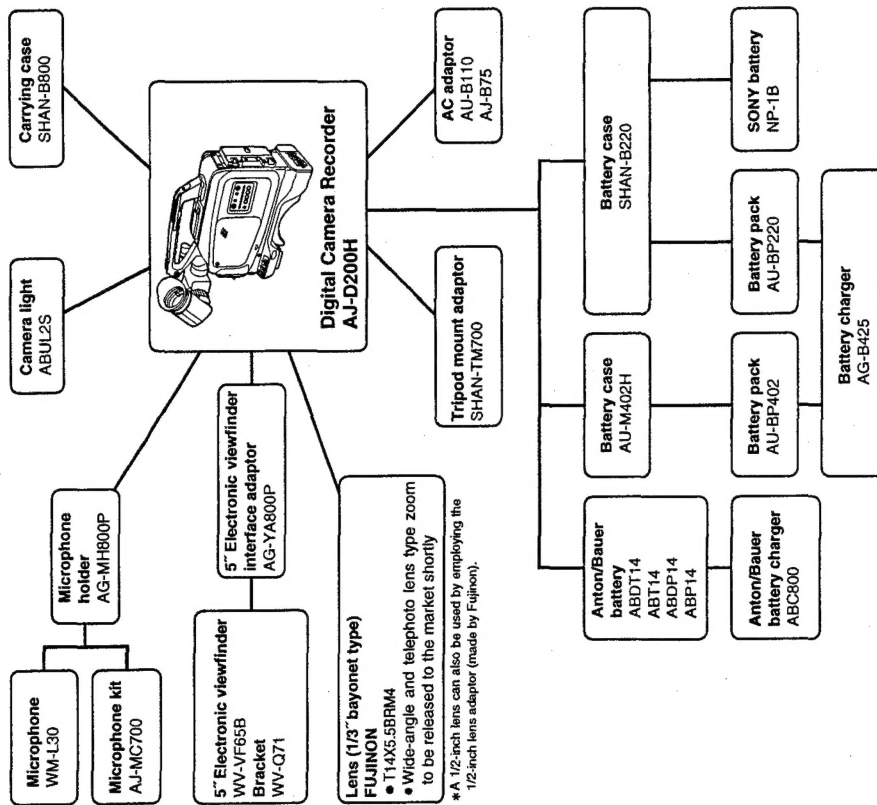
SECTION 1

OPERATING INSTRUCTION & SERVICE INFORMATION

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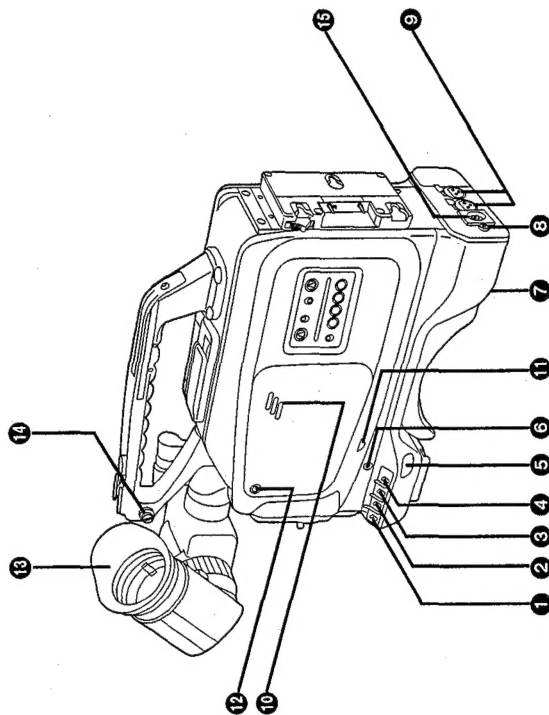
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System chart



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Parts and their functions



1 GAIN selector switch

When the camera picture is too dark, increase the gain to brighten the picture by setting this switch.

0dB: The switch is normally kept at this position.

6/9dB: The gain of the camera's video amplifier is increased at this position. Select 6 dB or 9 dB on the on-screen menu first. For further details, refer to the menu items (on pages E-49, E-50 and E-54).

12/18dB: The gain of the camera's video amplifier is increased at this position. Select 12 dB or 18 dB on the on-screen menu first. For further details, refer to the menu items (on pages E-49, E-50 and E-54).

The amount of noise also increases when the gain is increased.

2 White balance selector switch

MEMO: When the AUTO W/B (WHITE/BLACK) BAL switch on the front panel is operated, the white balance is adjusted automatically, and the adjustment value is stored in the internal memory.

PRST: Although the preset mode was set to INDOOR when the unit was shipped from the manufacturing plant, OUTDOOR can be selected instead using the on-screen menu. For further details, refer to the menu items (on pages E-49, E-50 and E-54).

OUTDOOR	INDOOR
5000K	3200K

ATW: This is the automatic tracking white balance mode.

Note: It may not be possible to attain the correct white balance under some types of lighting.

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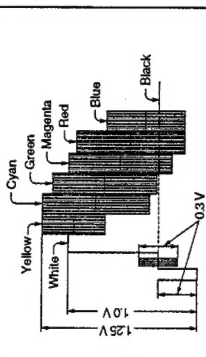
Parts and their functions

3 OUTPUT selector switch

CAM: The video signals shot by the camera are output.
BAR: The colour bar signals are output.

<Note>

Shown in the figure below are the output levels which are shown as colour bar signals by this unit. It should be noted that these are not EBU colour bars.



7 BREAKER switch

If trouble causes an excessively high current to flow inside the unit, the circuit breaker is tripped, causing the power to be turned off automatically to protect the unit.

Upon completion of inspection inside or repair work on the unit, push this button to the "in" position. The power will be turned on again provided that no trouble has occurred.

8 Earphone (PHONE) jack

This is the earphone (stereo) jack for monitoring the sound. When an earphone is connected, no sound will be heard from the speaker.

9 Audio input connectors

External microphones are connected here. Line input signals can also be connected by setting an internal switch to the corresponding position.

10 Speaker

The sound can be monitored through this speaker.

- The sound from the speaker is automatically cut off when an earphone is connected to the PHONE jack.
- The CH1 and CH2 sound is mixed and heard as the monitored sound.

11 Audio monitor level control

This volume control is used to adjust the sound when it is being monitored.

12 MARK/CANCEL button

This is the SCENE data function switch. For further details, refer to the SCENE data function section (on pages E-57 and E-58).

13 Viewfinder

14 Shoulder belt fitting

The shoulder belt is fastened here.

15 External DC input socket

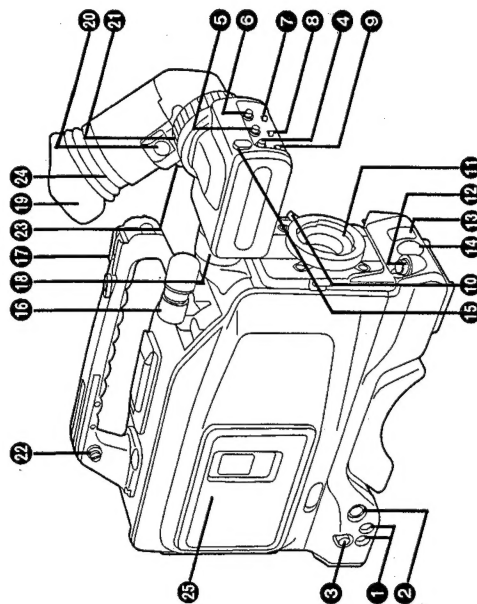
This socket is for the external power (DC) supply. Connect an AC adaptor. When the adaptor is connected, power is automatically supplied from the external power source.

5 POWER switch

ON: All the functions of the camera VTR are made operational.
OFF: The power to the camera VTR is turned off.

6 MODE CHECK switch

This enables the settings of the camera's function switches to be checked in the viewfinder.



1 AUDIO OUT connectors (pin jacks)

2 S-VIDEO OUT connector (V/C connector)

CAUTION: Bear in mind that if any action that involves playing back a tape on this VTR (such as REC CHECK or retake) is taken while a back-up VTR is connected to the S-VIDEO OUT connector to record pictures, the pictures played back by this unit will be recorded on the back-up VTR.

3 VIDEO OUT connector (BNC)

CAUTION: Bear in mind that if any action that involves playing back a tape on this VTR (such as REC CHECK or retake) is taken while a back-up VTR is connected to the VIDEO OUT connector to record pictures, the pictures played back by this unit will be recorded on the back-up VTR.

4 PEAKING control

Turning this control sharpens the outlines of the images in the viewfinder to facilitate focusing. The control has no effect on the camera's output signals.

5 CONTRAST control

This is used to adjust the contrast of the images in the viewfinder. It has no effect on the camera's output signals.

6 BRIGHT (brightness) control

This is used to adjust the brightness of the images in the viewfinder. The images become brighter when it is turned clockwise. It has no effect on the camera's output signals.

7 TALLY ON/OFF switch

ON: The tally lamp on the front of the viewfinder lights.
OFF: The tally lamp on the front of the viewfinder does not light.

8 ZEBRA (zebra pattern) ON/OFF switch

ON: A zebra pattern is displayed in the viewfinder.
OFF: A zebra pattern is not displayed.

9 CHARACTER ON/OFF switch

ON: This turns the character display ON or OFF. Characters are displayed in the viewfinder.
OFF: Characters are not displayed in the viewfinder.

The colour temperature display in the ATW mode and the SCENE data MARK will appear even when the CHARACTER ON/OFF switch is at the OFF position.

Parts and their functions

10 Lens locking lever

After the lens has been attached to the lens mount, this lever is tightened up to lock the lens in position.

11 Lens mount (bayonet type)

This attaches the lens.

12 LENS connector (12-pin)

The connecting cord of the lens is connected here. For a detailed description of the lens to be used, read the instruction manual which accompanies the lens.

13 AUTO W/B (WHITE/BLACK) BAL switch

AWB: The white balance and black balance are automatically adjusted. When the white balance selector switch is set to the MEMO position and then the AUTO W/B BAL switch is operated, the adjustment value is stored in the unit's memory. Bear in mind that no operation results when the selector switch is set to the ATW or PRST position.

14 VTR START/STOP button

This is used to start or stop the recording.

15 TALLY lamp

This lights when the image shot by the camera is being recorded by the VTR. It lights or flashes in tandem with the TALLY lamp inside the viewfinder.

16 Microphone

This is a compact unidirectional microphone. A microphone with sharp directionality can be attached by replacing the microphone provided with the optional holder.

17 Accessory hole

A video light or other accessory is installed here.

18 Viewfinder locking ring

This is used to attach or remove the viewfinder. When the ring is loosened, the viewfinder can be rotated by 90 degrees and pointed upwards.

19 Eye cup

20 Eye cup unlocking lever

This is used to remove the eye cup. The eye cup is removed by moving the lever in the direction of the arrow and then sliding the eye cup free.

21 Viewfinder locking stopper

This is used to adjust the viewfinder's position. To adjust the position, loosen the stopper and move the viewfinder to the left or right. After having adjusted the position, tighten up the stopper to lock the viewfinder in place.

22 Shoulder belt fitting

The shoulder belt is fastened here.

23 Diopter control (bottom panel)

Adjust this to match your eyesight so that you can clearly see the images inside the viewfinder.

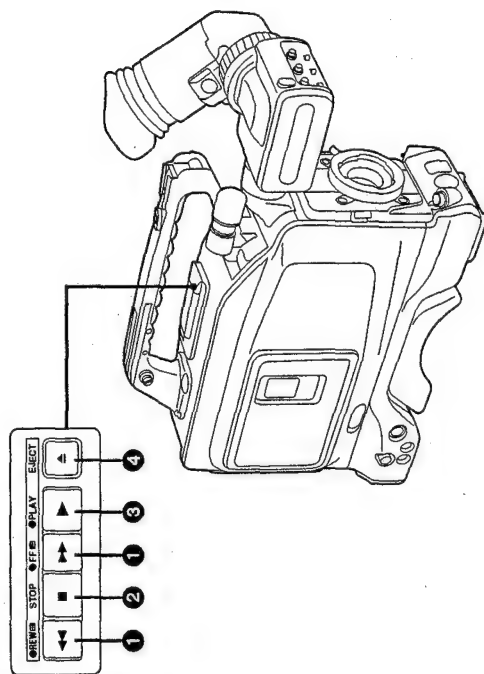
24 Eyepiece position adjustment ring

This enables the eyepiece position to be adjusted forwards or backwards when used in the unlocked status. Upon completion of the adjustment, set it to the LOCK status to lock the eyepiece in position.

25 Cassette holder

This is the slot where the cassette tape is loaded.

Function buttons



1 REW (rewind)/FF (fast forward) buttons

- When the REW or FF button is pressed while the tape has stopped travelling, the tape is rewound or fast forwarded at the normal rewinding or fast forwarding speed in the E-E mode.

- When the REW or FF button is pressed while the tape is being played, the tape is reviewed or cued at approximately 4.5 times the normal tape speed.

- When the REW or FF button is pressed in the STILL or REC PAUSE mode, the tape is reviewed or cued at approximately 1 times the normal tape speed.

2 STOP button

The tape stops travelling when this button is pressed. The button does not work during recording. To stop the tape during recording, first establish the REC/PAUSE mode and then press the STOP button.

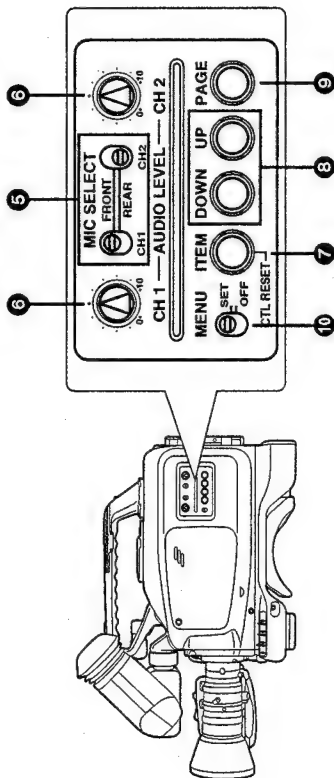
3 PLAY button/lamp

When this button is pressed, play is commenced and its lamp lights. When it is pressed again, the STILL mode is established, and when it is pressed once more, the PLAY mode is established again.

4 EJECT button

When this button is pressed, the cassette holder rises, and the cassette tape can be loaded or removed. The button does not work when the VTR is in the REC mode. To eject a tape in the REC mode, first establish the REC/PAUSE mode and then press the EJECT button.

14X Power Zoom Lens (option)



5 Audio input selector (MIC SELECT) switches

These switches are used to select the CH1 and CH2 audio input.

FRONT: Set to this position when recording audio signals from the microphone incorporated in the camera.

REAR: Set to this position when connecting external microphones to the audio input connectors (XLR 3P) on the rear panel and recording the audio signals from these microphones.

6 Audio level controls

These are used to adjust the CH1 and CH2 recording levels.

7 ITEM button

This is used to select menu items. When the MENU switch is at OFF, it functions as the reset button for the CTL counter.

8 DOWN and UP buttons

These are used to make changes to the menu settings.

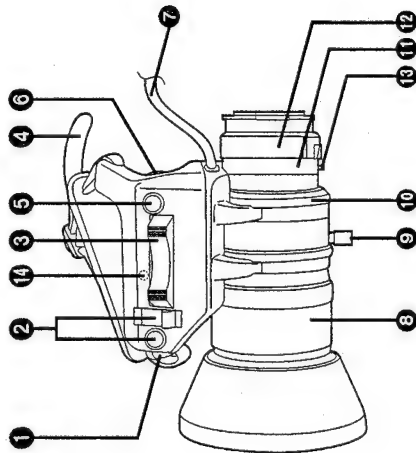
9 PAGE button

This is used to set the menu items.

10 MENU SET/OFF selector switch

Set to this position when displaying or making changes to menu items.

OFF: The switch is normally kept at this position.



1 Automatic iris control

This enables the automatic iris speed to be adjusted.

Removal of the rubber cap reveals the control inside. The speed is increasing by turning the control clockwise but take care not to turn it too far since hunting (continuous cycling) will occur.

This control must be adjusted when the lens has been replaced or when a lens has been mounted for the first time.

2 Lens iris selector switch (IRIS)

(A) side: The iris is adjusted automatically.
(M) side: Set to this position to adjust the iris manually.

3 Power zoom control switch

The zoom can be controlled electrically by setting the power/manual zoom selector switch to SERVO and then pressing the power zoom control switch. The zoom speed differs depending on the force with which the switch is pressed.

4 Hand strap

Adjust this to fit the size of your hand.

5 Return switch (RET, REC CHECK)

This switch is for checking a recording. When it is pressed in the recording pause mode, the recording check function is activated, the recorded section is played back, and then the recording is placed in the pause mode.

6 VTR start/stop switch

This switch provides easy manual access to starting and stopping the VTR recording. When it is pressed once, recording starts; when it is pressed again, it stops. When using this lens, the VTR can be controlled by this switch or the VTR start/stop switch on the camera.

7 Lens cable (12-pin)

This cable is to be connected to the LENS connector.

8 Focus ring

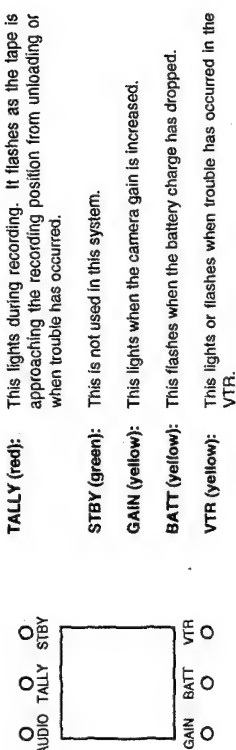
This ring is turned to focus the lens.

9 Zoom ring

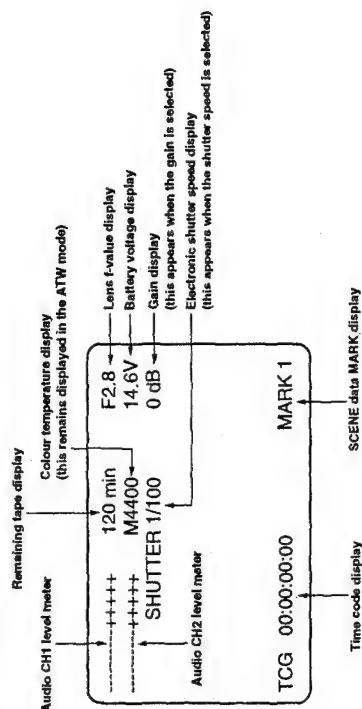
To adjust the screen size, set the power/manual zoom selector switch to MANU and turn this ring.

Viewfinder displays

LED displays



Character displays



- These displays appear when the CHARACTER switch at the front of the viewfinder is set to ON.
- Each individual display can be turned off by setting the corresponding menu item.
- When the mode check switch has been pressed, the current statuses are displayed regardless of whether the individual displays have been set ON or OFF using the corresponding menu items or whether the CHARACTER switch is ON or OFF.
- The colour temperature display in the ATW mode and the SCENE data MARK will appear even when the CHARACTER ON/OFF switch is at the OFF position.

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10 Iris ring

To adjust the iris, set the lens iris selector switch (IRIS) to M, and turn this ring.

11 Flange back adjustment ring

To adjust the flange back, loosen the flange back locking knob, and turn this ring. The ring must be adjusted when the lens has been replaced or when a lens has been mounted for the first time.

12 Macro ring

To take close-ups, set the lens all the way to the wide position, and turn this ring.

13 Flange back locking knob

Use this knob to lock the flange back after it has been adjusted.

14 Power/manual zoom selector switch

When this switch is set to SERVO, the zoom can be adjusted using the power zoom control switch. When it is set to MANU, the zoom can be adjusted using the zoom ring.

Also refer to the operating instructions accompanying the lens you have purchased.

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Error message displays

When an error occurs, an error message appears in the viewfinder.
There are two types of error messages; those which appear when the power is switched on, and those which appear during operation.
The tables given below indicate the causes and remedial action for the corresponding error messages.

Error messages which appear when the power is switched on

Error display	Cause	Remedial action
BACKUP BATTERY EMPTY	This appears when the internal clock battery has run down. Remarks: A flat back-up battery will interfere with the clock and time code free run functions although all other functions will remain unaffected. Replace the back-up battery at the earliest possible opportunity. The BACKUP BATTERY EMPTY display will appear even when the power is turned back on immediately after the back-up battery was replaced. This is normal and not indicative of a malfunction.	Replace the unit's back-up battery. For the replacement procedure, refer to page E-59, and consult with your dealer.
FLASH MEMORY EMPTY	This appears when garbage data in the built-in flash memory needs to be collected. A special memory called a flash memory is used inside this unit. It contains all the menu settings, white balance adjustment data and many other types of data. Due to the fact that this is a special memory, the old data no longer required when menu changes are made, for instance, is retained. Consequently, garbage memory contents such as these must be collected from time to time.	Proceed with garbage collection on the MAINTENANCE menu screen among the menu items. Refer to the menu items (on pages E-49, E-50 and E-50).
Remarks: This display appears well ahead of time so there is no need to panic and initiate garbage collection immediately. The garbage collection processing takes some time (about 1 minute) so it should be done when there is a spare moment.		

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Viewfinder displays

Error messages which appear during operation

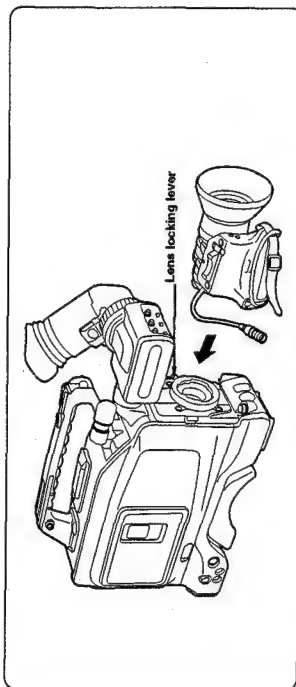
Error display	Cause	Remedial action
TOO BRIGHT ERROR	This appears when the white balance is to be adjusted (when the AUTO WB BAL switch was operated) or when the screen is excessively bright.	Stop down the iris a little more, and adjust the white balance. If the error display remains, insert the electronic shutter or attach the ND filter.
TOO DARK ERROR	This appears when the white balance is to be adjusted (when the AUTO WB BAL switch was operated) or when the screen is excessively dark.	Open the iris a little more, increase the gain (if this is warranted by the subject brightness), and adjust the white balance. If the error display remains, direct some light onto the subject.
LENS UNIT ERROR	This appears when the lens cable has been disconnected or when the lens iris control circuit has been damaged.	The cause is almost always a disconnected lens cable. If the display appears even when the cable is connected properly, consult with your dealer.
SELECT SW ERROR	This appears when the AUTO WB BAL switch was operated with the white balance selector switch at a position other than MEMO.	Adjust the white balance (operate the AUTO WB BAL switch) with the white balance selector switch at the MEMO position.
OUTPUT SW ERROR	This appears when the AUTO WB BAL switch was operated with the OUTPUT switch at a position other than CAM.	Adjust the white balance (operate the AUTO WB BAL switch) with the OUTPUT switch at the CAM position.
BLACK BAL ERROR	This points to a malfunction in the camera unit.	Consult with your dealer.
WHITE BAL ERROR TRY AGAIN	This appears when the white balance was not attained properly due to some condition or other.	Change the iris setting (the brightness) slightly and then try again. If the message continues to appear even after two or three attempts, consult your dealer.
Remarks: The above errors are detected when the white balance is adjusted (when the AUTO WB BAL switch has been operated). The LENS UNIT ERROR is also detected immediately after the power has been switched on.		
SERVO	This appears when an unrecorded part of a tape is played back or at other times when the VTR servo lock is disengaged.	It is normal for this display to appear with unrecorded parts of tapes. If the display appears during the playback of an obviously recorded tape or during recording, this points to a malfunction. Consult with your dealer.
HUMID	This signifies that condensation has formed.	Refer to page E-64 where detailed instructions can be found.
POWER OFF	This is not an error message. It is a warning which indicates that the power will be turned off very shortly.	

E-18

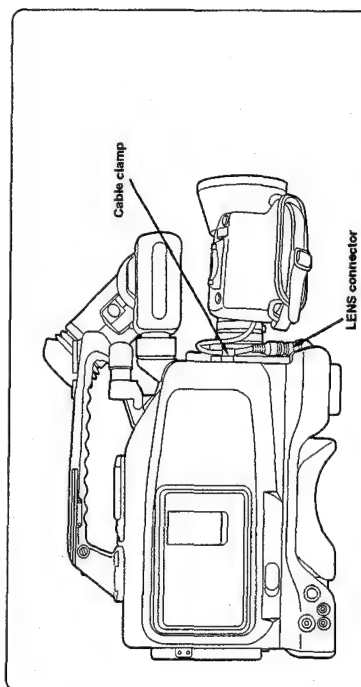
Preparations

■ Attaching the peripheral units Attaching the lens

- 1 Position the lens, insert it, and lock it in place using the lens locking lever.



- 2 Connect the cord to the LENS connector, and secure it using the cable clamp.



Notes:

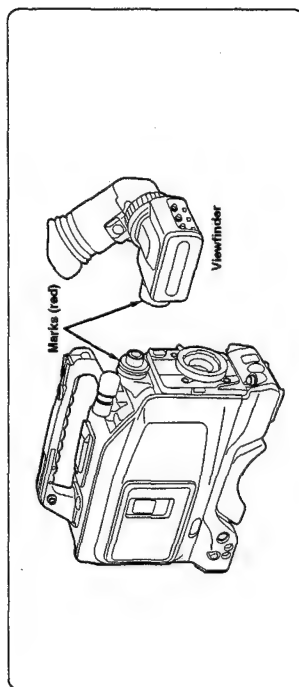
- Refer to the operating instructions accompanying the lens for details on handling the lens.
- Attach the lens cap to protect the unit when the lens has been removed.

E-19

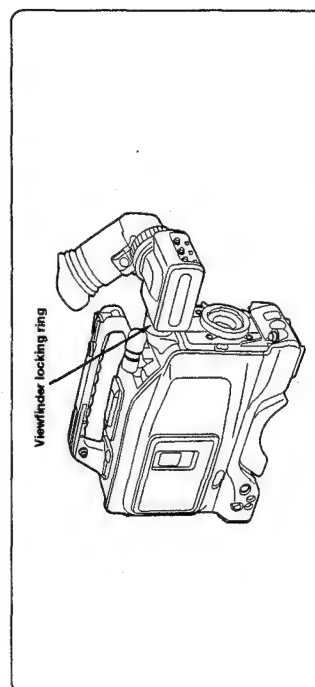
Preparations

Mounting the viewfinder

- 1 Align the positions of the marks (red), and fit into place.



- 2 Turn the viewfinder locking ring to lock the viewfinder into place.



The viewfinder can be turned by 90 degrees by loosening the locking ring.

E-20

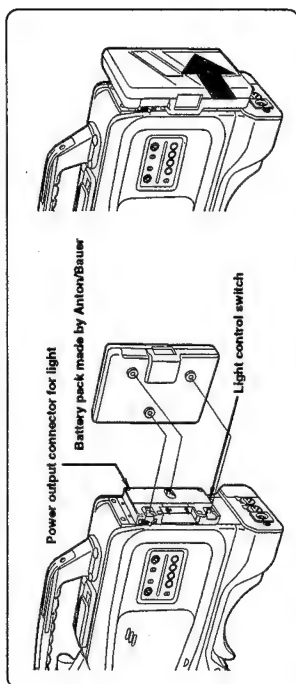
Preparations

When using a battery pack made by Anton/Bauer

Before using the battery pack, charge it using the special battery charger made by Anton/Bauer. For the charging time and other details, refer to the operating instructions of the battery charger used.

1 Attach the battery pack made by Anton/Bauer.

Insert it in the direction indicated by the arrow and slide it into place.



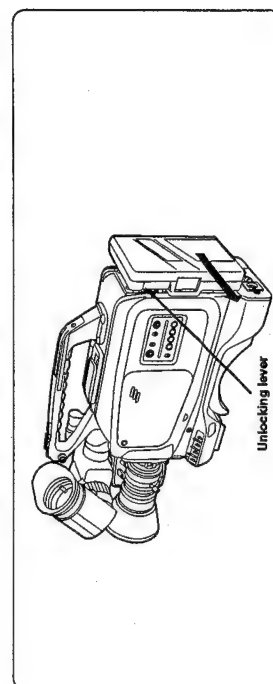
■ Provided on the battery holder made by Anton/Bauer are a power output connector for a light and a light control switch. A light can be easily attached. For details on lighting systems, consult an Anton/Bauer representative.

2 Set menu item 7. BATTERY (BATT.SELECT) to the battery which is to be used.

For further details, refer to the menu items (pages E-49 to E-51).

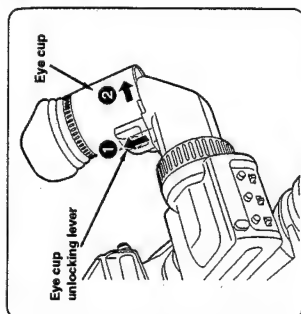
Remarks:

■ To remove the battery pack
While holding the unlocking lever on the battery holder all the way down, slide the battery pack in the direction indicated by the arrow.



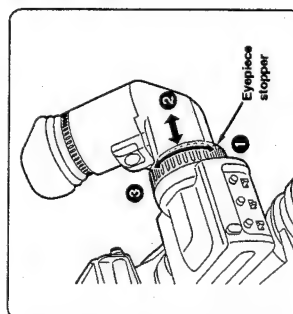
E-22

Removing the eye cup



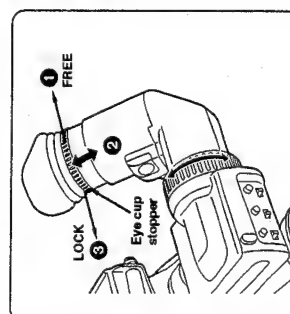
- 1 Move the eye cup unlocking lever in the direction indicated by the arrow.
- 2 Slide the eye cup in the direction indicated to remove it.

Adjusting the eyepiece position



- 1 Set the eyepiece stopper to FREE.
- 2 Move the eyepiece towards the left or right to a position which affords the easiest viewing.
- 3 Tighten the eyepiece stopper.

Adjusting the eye cup position



- 1 Set the eye cup stopper to FREE.
- 2 Adjust the eye cup by moving it towards you or away from you.
- 3 Set the eye cup stopper to LOCK to lock the eye cup in place.

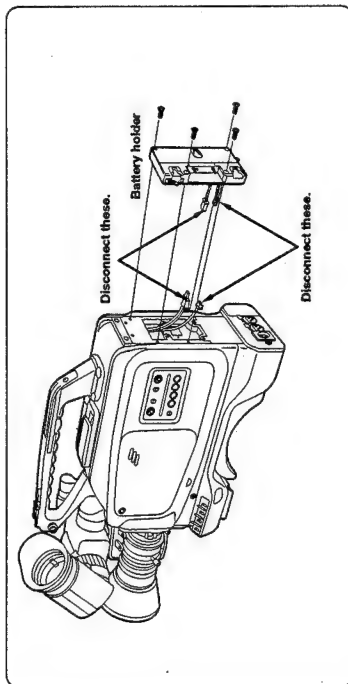
E-21

Preparations

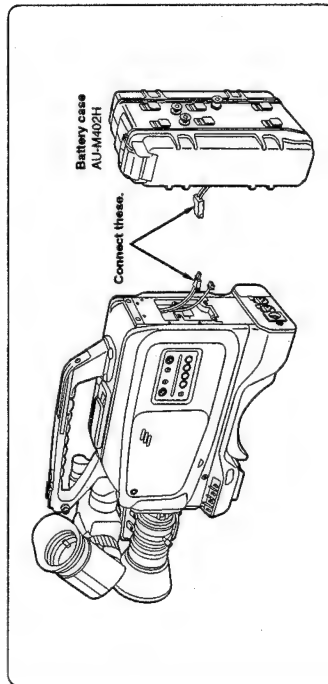
When using the AU-BP402 battery pack

Charge the AU-BP402 battery pack using the AG-B425 battery charger. It takes about an hour to charge the battery pack. For further details, refer to the operating instructions accompanying the AG-B425 battery charger.

1 Remove the battery holder.

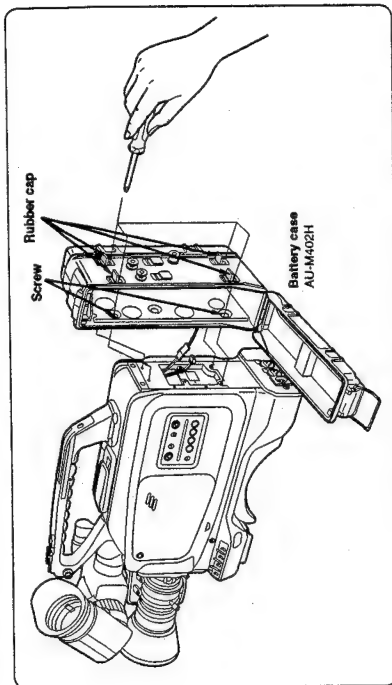


2 Connect the unit's cables to the AU-M402H battery case cables.



E-23

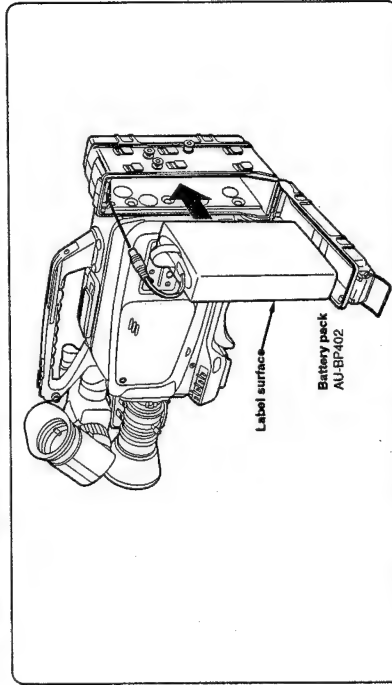
3 Mount the AU-M402H battery case onto the unit using a screwdriver.



Holes with the screws recessed inside can be seen when the cover is opened and the rubber caps are lifted. Tighten up these screws using a screwdriver so that the battery case is mounted onto the unit. Tighten the screws up all the way.

CAUTION: Do not pull the rubber caps with too much force.

4 Connect the plug of the battery pack to the connector inside the battery case, and install the battery pack inside the case.



CAUTION: The unit's power must be turned off before the plug is connected or disconnected.

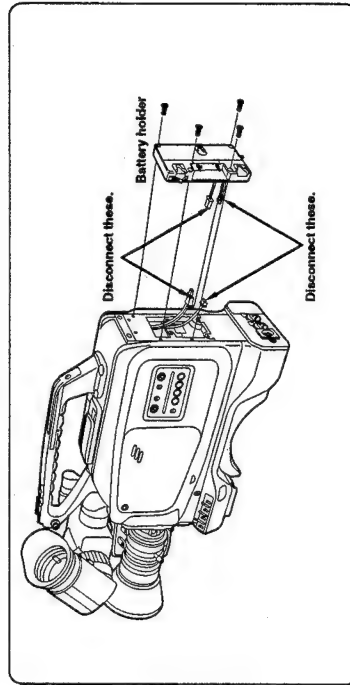
E-24

Preparations

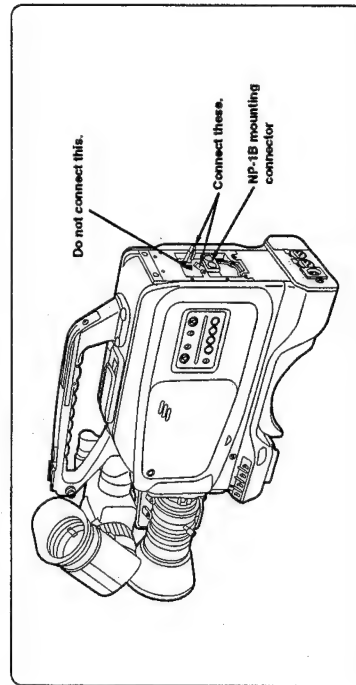
When using the NP-1B battery made by Sony

Charge the NP-1B battery using the special battery charger made by Sony. For the charging time and other details, refer to the operating instructions accompanying the battery charger used.

1 Remove the battery holder.



2 Attach the accessory NP-1B mounting connector.



5 Set menu item 7. BATTERY (BATT.SELECT) to NICd12V.

Menu item screen (viewfinder)

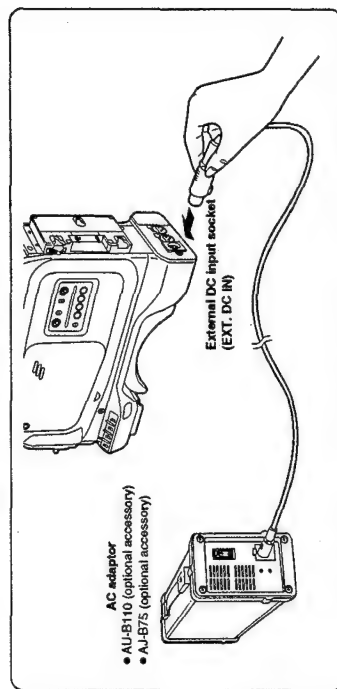
- MAIN FUNCTION -	
TOG CLEAR	: REC
RECRUN/FREERUN	
SCENE DATA SAVE	
SCENE DATA UNDEL	: NICd12
→ BATT. SELECT	: ON
BACK TALLY	
MENU INITIALIZE	

For further details, refer to the menu items (pages E-49 to E-51).

Preparations

When using an AC power source
(when using the AU-B110/AJ-B75 AC adaptor)

- 1 Connect the unit's external DC input socket to the DC OUT connector on the AU-B110/AJ-B75 AC adaptor.

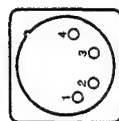


- 2 Turn on the AC adaptor's power.

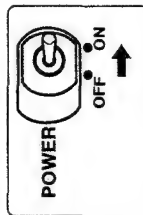
- 3 Set the unit's POWER switch to the ON position.

Check the pin signals of the external DC input socket when an external power source other than the AU-B110/AJ-B75 AC adaptor is to be used.

Pin No.	Signal
1	GND
2, 3	—
4	+12V



External DC input socket

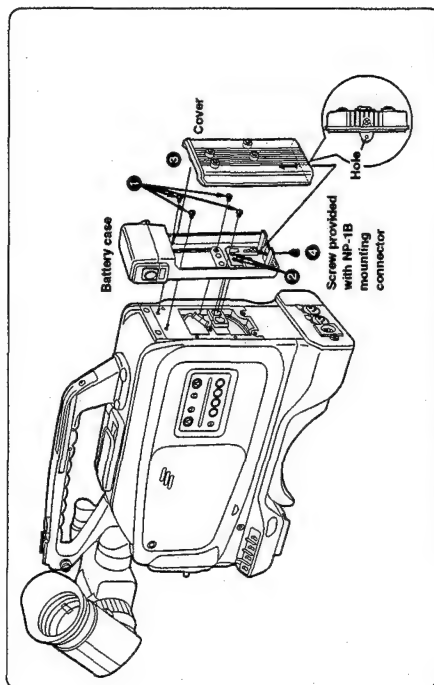


NOTES:

- Priority is given to the power supplied from the AC adaptor when both a battery pack and AC adaptor have been connected.
- When the AC adaptor is used, the low battery warning may appear depending on the BATT.SELECT menu setting. If this happens, it is recommended that the NI-Cd12V setting be used for BATT.SELECT.
- When the AC adaptor is used, the AC adaptor's power must be turned on before the unit's POWER switch is set to the ON position. If the POWER switch is set to ON first, the unit may malfunction since the AC adaptor's output voltage increases slowly after the power has been turned on.

E-28

- 3 Mount the battery holder made by Sony



Before proceeding any further, remove the battery holder cover.

- 1 Mount the battery case using the mounting screws.
- 2 Tighten the power contact screw.
- 3 Insert the top of the cover in the direction indicated by the arrow.
- 4 Align the hole at the bottom (metal part) of the cover with the hole at the bottom of the battery case and mount the battery holder using the screw provided with the NP-1B mounting connector.

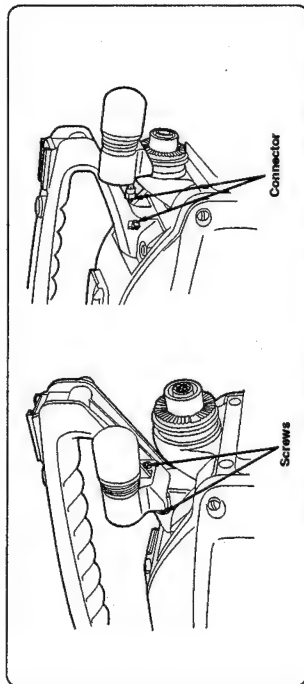
E-27

Preparations

Attaching the microphone holder (option)

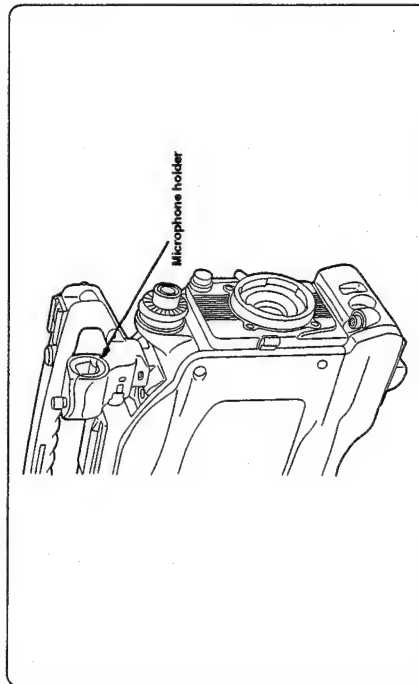
The AJ-MC700/WM-L30 or other optional microphone can be used in place of the microphone which accompanies the unit.

1 Remove the microphone on the main unit.



Remove the two screws to remove the connector and then remove the microphone.

2 Attach the microphone holder.



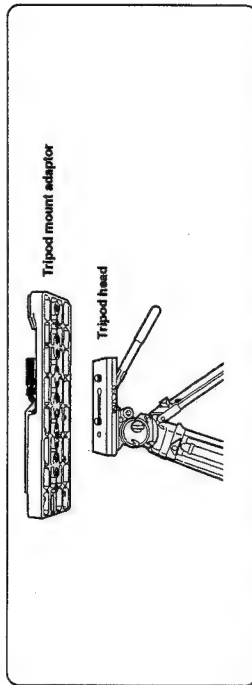
The microphone holder is attached by following the microphone removal procedure in reverse.

E-29

Mounting the unit onto a tripod

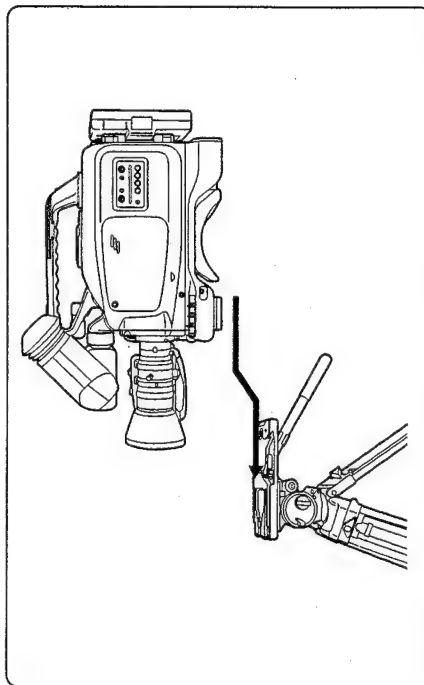
The tripod mount adaptor, which is sold separately, is used to mount the unit onto a tripod.

1 Attach the tripod mount adaptor to the tripod.



NOTE: Take the centre of gravity of the unit and tripod mount adaptor into consideration when selecting the hole for the attachment. Also check that the diameter of the hole selected matches the diameter of the tripod head screw.

2 Mount the unit onto the tripod mount adaptor.



Slide the unit away from you along the groove until it clicks into position.

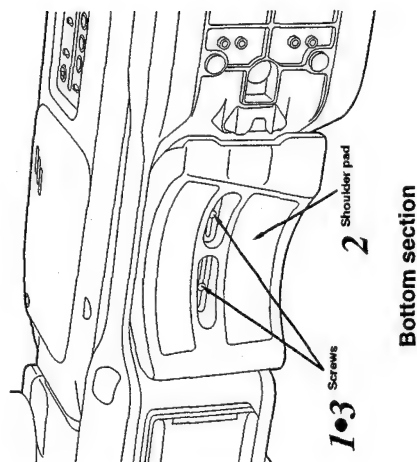
E-30

Preparations

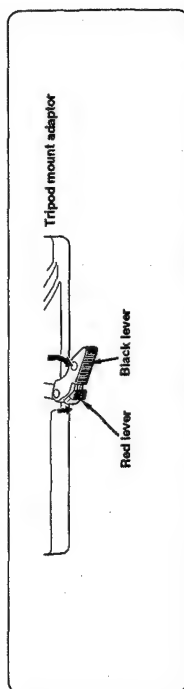
Adjusting the shoulder pad position

The shoulder pad can be adjusted by sliding it in the forwards or backwards direction from its center position (shipment position) by up to 15 mm on either side. Adjust it to the position where you find it easiest to operate.

- 1 Loosen the two screws.
- 2 Slide the shoulder pad back and forth until you find the optimum position.
- 3 Tighten the screws and secure the shoulder pad.



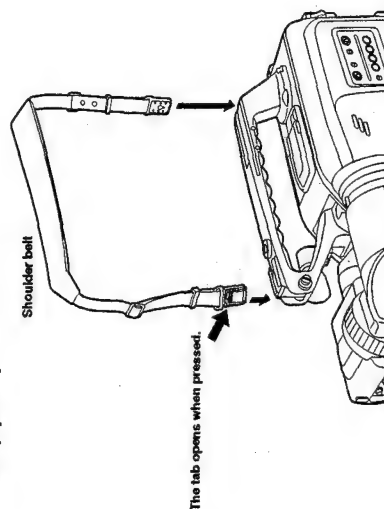
Disengaging the unit from the tripod mount adaptor



Move the black lever in the direction indicated by the arrow while holding down the red lever, and disengage the unit by sliding it towards you.

NOTE: If the pin of the tripod mount adaptor fails to return to its original position after the unit has been disengaged, again move the black lever in the direction indicated by the arrow while holding down the red lever. This returns the pin to its former position. Bear in mind that the unit cannot be mounted if the pin is left in the centre.

Fastening the shoulder belt (option)



To release the shoulder belt, open the tabs at both ends and disengage.

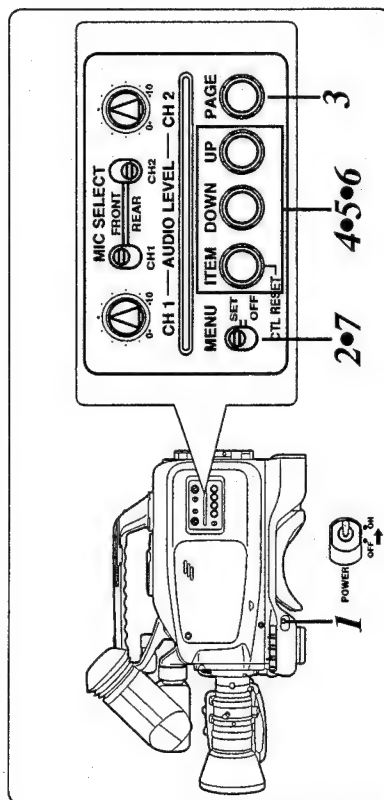


NOTE: Check that the shoulder belt is securely fastened.

Preparations

■ Setting the date and time

The first step to take after purchasing the unit is to set the date and time.
(With a DVCPRO VTR, the shooting date and time data is recorded separately from the images. In order for this data to be recorded correctly, first set the date and time.)



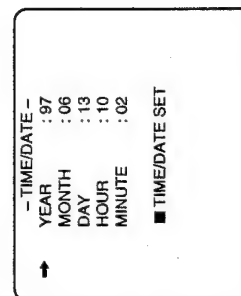
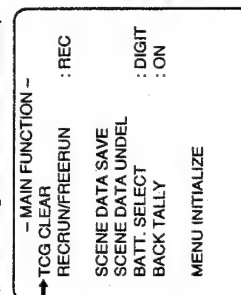
1 Set the POWER switch to ON.

2 The setting screen (MENU) appears in the viewfinder when the MENU SET/OFF selector switch is set to SET.

3 While monitoring the viewfinder, press the PAGE button until the TIME/DATE screen appears.

Setting screen (viewfinder)

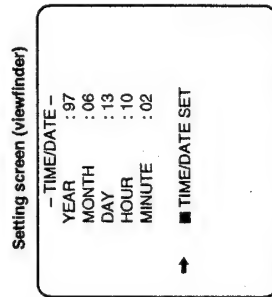
(First setting screen for menu items)



Descriptions are also given in the menu items (on pages E-49, E-50 and E-55).

4 Set the date and time using the ITEM, UP and DOWN buttons.

5 Keep pressing the ITEM button until the arrow indicates "■ TIME/DATE SET."



6 The date and time settings are entered when the UP or DOWN button is pressed.

7 Finally, set the MENU SET/OFF selector switch to OFF.

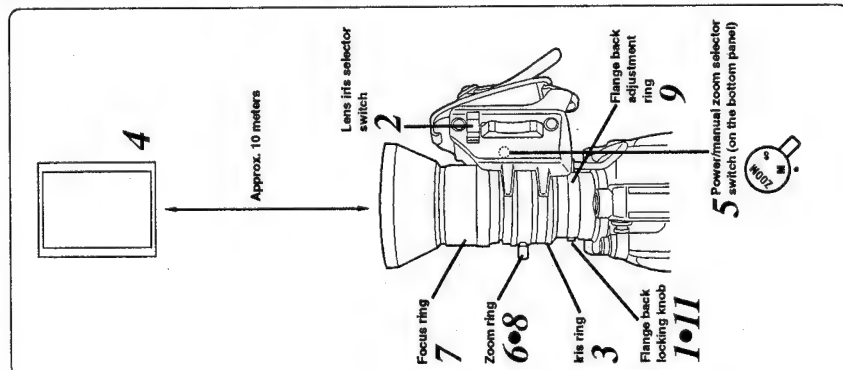
Preparations

■ Adjusting the lens flange

The lens flange is adjusted when the lens fails to be focused at both the telephoto and wide-angle positions because it has been mounted for the first time or because it has been replaced.

This adjustment need be done only once provided that the lens is not replaced.

- 1 Loosen the flange back locking knob.
- 2 Set the lens iris selector switch (IRIS) to "M."
- 3 Turn the iris ring and set the iris to the fully open position.
- 4 Shoot a well-contrasted subject such as a window or utility pole at least 10 meters away.
- 5 Set the power/manual zoom selector switch to "M."
- 6 Turn the zoom ring and set the zoom to the maximum telephoto position (zoom in).
- 7 Turn the focus ring and bring the subject into focus.
When the subject is too bright and it is hard to verify whether it is in focus. Set the electronic shutter to ON. (If necessary, change the shutter speed as well.)
- 8 Turn the zoom ring and set the zoom to the maximum wide-angle position (zoom out).
- 9 Turn the flange back adjustment ring and bring the subject into focus.
- 10 Repeat steps 5 to 9 until the subject is brought into focus at both the telephoto and wide angle positions.
If the subject is out of focus, use the focus ring to focus, then zoom out, and use the flange back adjustment ring to bring the subject into focus.
- 11 Upon completion of the adjustments, tighten up the flange back locking knob to prevent the flange back adjusting ring from moving out of position.

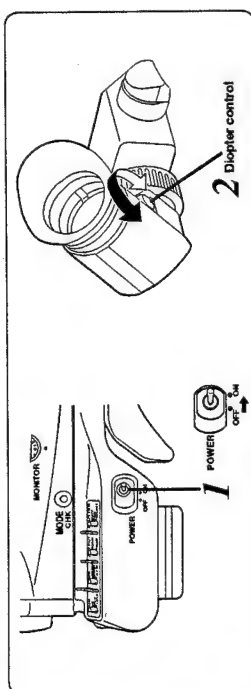


Also refer to the operating instructions accompanying the lens you have purchased.

E-36

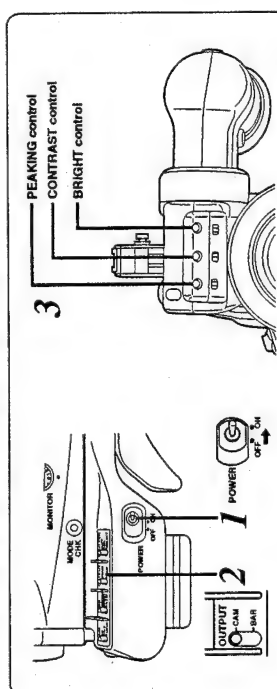
■ Adjusting the viewfinder

Adjusting the viewfinder diopter



- 1 Set the POWER switch to ON.
An image now appears on the viewfinder.
- 2 Turn the diopter control and adjust it so that the viewfinder image can be seen clearly.

Adjusting the viewfinder's brightness and contrast



- 1 Set the POWER switch to ON.
An image now appears on the viewfinder.
- 2 Set the OUTPUT switch to CAM.
- 3 Turn the viewfinder's BRIGHT and CONTRAST controls and adjust the brightness and contrast of the image.

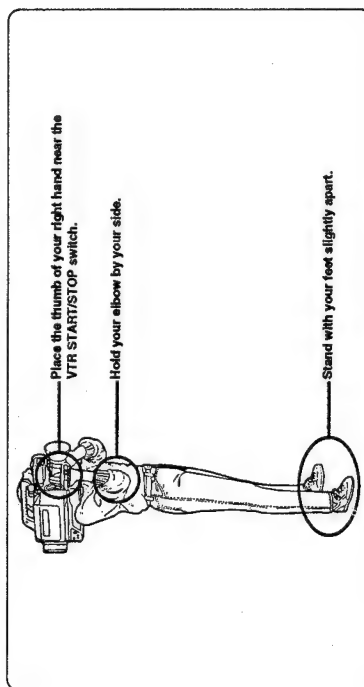
When the viewfinder's PEAKING control is turned, the image can be adjusted to be softer or sharper.
If it is adjusted to be sharp, it will be easier to focus the lens.

E-35

Adjustments during shooting

Camera posture

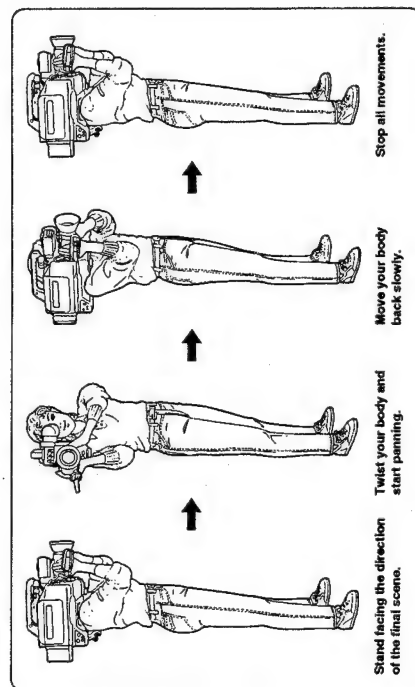
If the camera is held rather than secured on the tripod for shooting, the images will feature plenty of movement but there will be a lack of stability. Hold the camera in such a way as to prevent camera shake.



Camera movements

Basically, the camera should be fixed in position for shooting. If the pan and tilt functions are used, however, the recording will have more of a sense of movement. Moving the camera horizontally is called "panning"; moving it perpendicularly is known as "tilting." In moving the camera, the knack is to move it slowly. Better shots can be taken by moving the camera very slowly. Even when a movement has been completed, suspend all movement for a few moments.

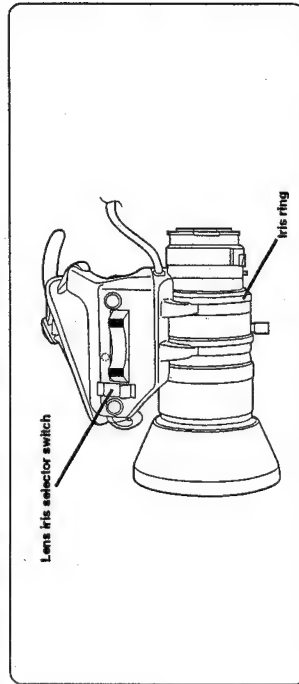
Panning



Adjustments during shooting

Exposure adjustment

The exposure varies according to the lens iris.
The lens iris can be adjusted using the automatic iris or manual iris settings.



• Automatic iris

Set the lens iris selector switch (IRIS) to "A."

The iris is automatically adjusted to obtain the brightness which is commensurate with the subject.

■ This unit's automatic iris operation serves to measure the average brightness of the entire screen to control the iris. This means that the subject will tend to become all white or dark when a spotlight is directed on the subject or when the subject is shot under backlight conditions. Use the lens iris at the manual setting for lighting conditions such as these.

• Manual iris

Set the lens iris selector switch (IRIS) to "M."

Turn the iris ring and adjust the brightness.

Shooting conditions	Operation
Background is too bright, and subject is dark (backlight)	Open the iris slightly.
Background is dimly lit, and subject is bright	Stop down the iris slightly.
When special effects are desired	Adjust the iris as required.

Also refer to the operating instructions accompanying the lens you have purchased.

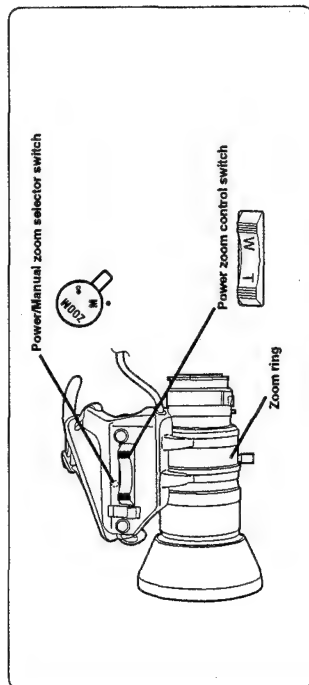
Notes:

■ If the light quantity is too great, obtain an ND filter (62 mm diameter) from a camera store, and attach it in front of the lens.

Adjustments during shooting

Zooming

Both power zoom and manual zoom functions are available for zooming. Power zoom involves simply pressing a switch and selecting telephoto (TELE) or wide angle (WIDE); manual zoom involves operating the zoom ring and selecting telephoto or wide angle.



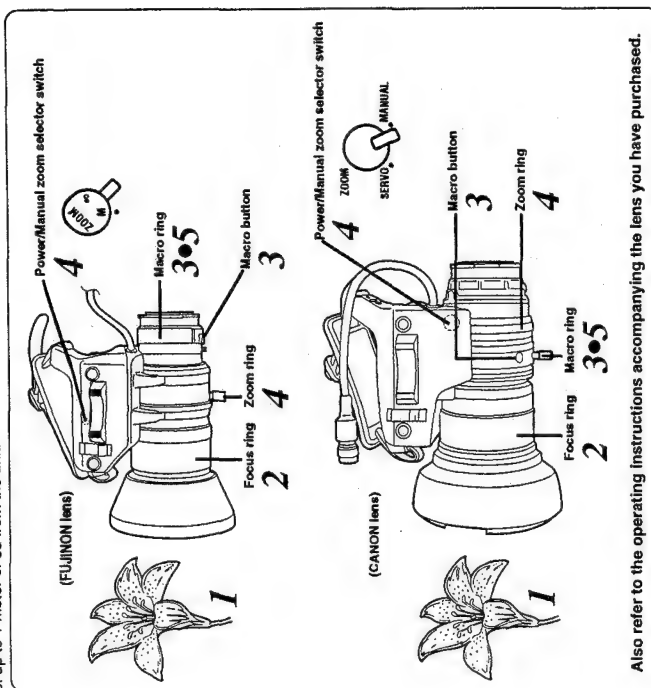
Zooming	Power zoom		Manual zoom	
	Set the power/manual zoom selector switch to "S."		Set the power/manual zoom selector switch to "M."	
Telephoto	Set the power zoom control switch to T (TELE).		Rotate the zoom ring downwards.	
Wide angle	Set the power zoom control switch to W (WIDE).		Rotate the zoom ring upwards.	

Also refer to the operating instructions accompanying the lens you have purchased.

E-39

How to take close-ups

The close-up (macro) function comes in handy when shooting insects, flowers or other subjects positioned at close distances of up to 1 meter or so from the unit.



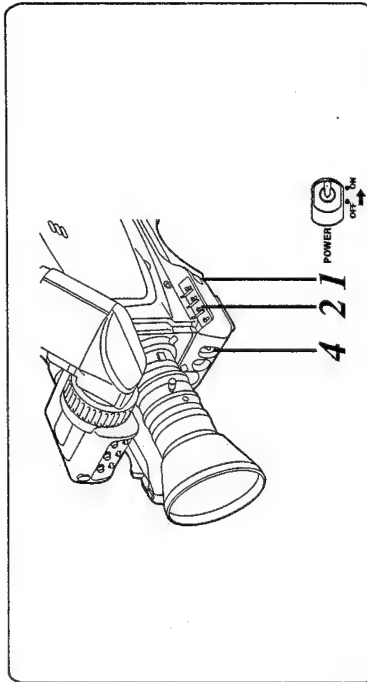
Also refer to the operating instructions accompanying the lens you have purchased.

- 1 Bring the lens up close to the subject.
- 2 Set the focus ring to the shortest possible setting.
- 3 Press the **MACRO** button forwards, and rotate the macro ring.
The subject appears at its maximum size when the macro ring is rotated as far as it will go.
- 4 Set the power/manual zoom selector switch to "M," and rotate the zoom ring to bring the subject into focus.
- 5 After completing the macro shooting, return the macro ring to its click-stop position.

E-40

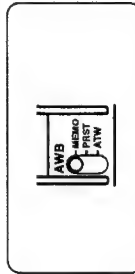
White balance adjustment

This adjustment may be skipped when the white balance selector switch is used at the ATW position (automatic tracking wide balance mode) or PRST position (for shooting under a predetermined light source).



1 Set the POWER switch to ON.

2 Set the white balance selector switch to MEMO.



3 Place a sheet of white paper, handkerchief or something similar in conditions identical to those of the light sources which will be used to illuminate the subject, and zoom in on the subject so that the screen is filled with the white paper or handkerchief.

- Something white (such as a piece of white fabric or white wall) near the subject may serve instead, but it should be borne in mind that what you thought was white may in fact be slightly coloured.
 - Be careful not to open the lens iris too far when adjusting the white balance. Attempting to adjust the white balance with the iris open too far will cause the warning "TOO BRIGHT" to be displayed and processing to stop. Note that the "TOO BRIGHT" warning is especially prone to appear when the entire screen is filled with something white, such as a piece of paper.
- (Generally speaking, selecting the AUTO IRIS mode to control the lens iris setting will ensure that it is automatically adjusted to the appropriate setting for the lighting level.)

E-42

Light sources and colour temperatures

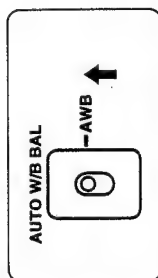
When shooting a subject, it is necessary to adjust the white balance to a setting which matches the light source. A light source is expressed using a colour temperature (K). The bluer the light, the higher the temperature; conversely, the redder the light, the lower the temperature. The table given below shows the correlation between light sources and colour temperatures.

Light source	Colour temperature (K)
Clear skies	10,000
Cloudy	8,000
Rainy	7,000
Fluorescent lights (daylight)	6,000
Mercury-vapour lamps	5,000
Fluorescent lights (white)	4,000
Sunshine at midday	3,500
1 hour after sunrise, 1 hour before sunset	3,200
Fluorescent lights (warm white)	3,000
Studio lights	2,500
Halogen lamps, video lights	2,000
30 minutes after sunrise, 30 minutes before sunset	2,000
Incandescent bulbs	2,000
Sodium lamps	2,000
(Lighting inside tunnels)	2,000
Sunrise, sunset	2,000
Candlelight	2,000

E-41

Normal recording

- 4** Shoot the white object so that it fills the screen, and set the AUTO W/B BAL switch to AWB.



The white balance adjustment is completed is about 10 seconds.

- Upon completion of the adjustment, the colour temperature display appears in the viewfinder.
- Now check that the colour temperature imaged and the colour temperature displayed in the viewfinder match. If they do not tally, it is recommended that the white balance be adjusted again.
- If it was not possible to adjust the white balance, the WHITE BAL ERROR TRY AGAIN message appears in the viewfinder. In a case like this, check that the lens cable is connected properly and that the subject brightness is suitable, and then adjust the white balance again.

When the white balance should be re-adjusted:

Be absolutely sure to re-adjust the white balance when there has been a change in the light conditions or when the gain setting has been changed.

Notes:

- Since hunting may occur when a zoom lens with an automatic iris mechanism is used, adjust the iris gain knob provided on the lens. For further details, refer to the operating instructions accompanying the lens.

- The white balance cannot be adjusted if the white balance selector switch is set to the ATW or PRST position.

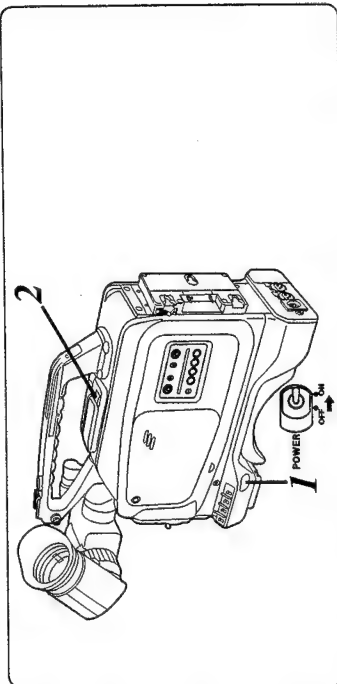
- Do not allow a subject lighter than the white object shot in step 3 above onto the screen since the white balance is adjusted with the lightest part of the subject on the screen taken to be white. Failure to heed this caution may cause malfunctioning.

- Do not increase the gain to an unnecessarily high value and then proceed with the automatic white balance (AWB) operation. Failure to heed this caution will cause the iris to be nearly stopped down when AWB is performed so operation will become unstable.

Remarks: ■ In order to ensure that a high picture quality is maintained, it is recommended that AWB be performed immediately before shooting scenes of great importance or value.

- When the white balance is adjusted, the black balance is also adjusted automatically inside the unit. Consequently, when the AUTO W/B BAL switch has been operated, the iris will close before opening again: this is normal and not indicative of any malfunctioning.

E-43



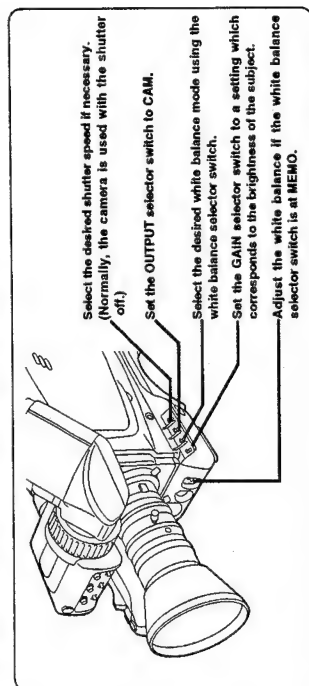
- 1** Set the POWER switch to ON.

- 2** Press the EJECT button to open the cassette holder, and insert the cassette tape.

- Before proceeding with the recording, make sure that the cassette tab has been set to the REC position.
- This unit uses "L" cassettes only.



- 3** Set the camera switches as shown below.



- 4** Point the camera at the subject and adjust the focus and zoom.

- 5** Press the VTR START/STOP button to start the recording.

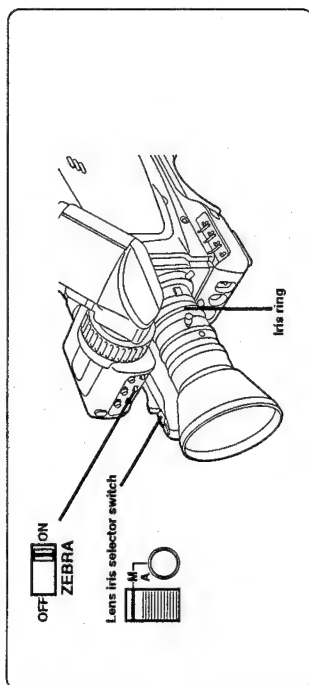
- 6** Press the VTR START/STOP button to stop the recording.

E-44

Normal recording

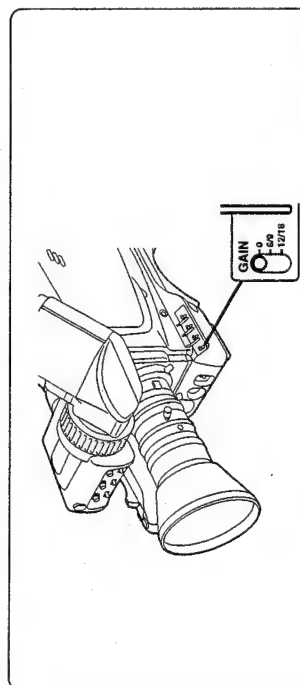
Zebra pattern display

A zebra pattern can be displayed on a bright part (over approx. 85 IRE) of the image.



Gain settings

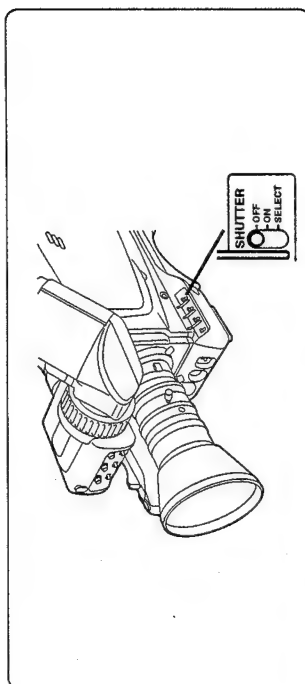
When shooting in locations with insufficient lighting, a brighter image can be produced by increasing the gain. However, it should be borne in mind that the noise will also increase when the gain is raised.



Gain settings of 0/6/12dB or 0/9/18dB are set on the menu item CAMERA SETTING menu screen for operation. (The 0/6/12dB settings were selected when the unit was shipped from the manufacturing plant.) For further details, refer to the menu items (on pages E-49, E-50 and E-54).

High-speed shutter

Camera shake can be minimized when shooting moving subjects by increasing the shutter speed. Furthermore, shooting under fluorescent lights produces flickering images, and this flickering can be reduced by changing the shutter speed when shooting.



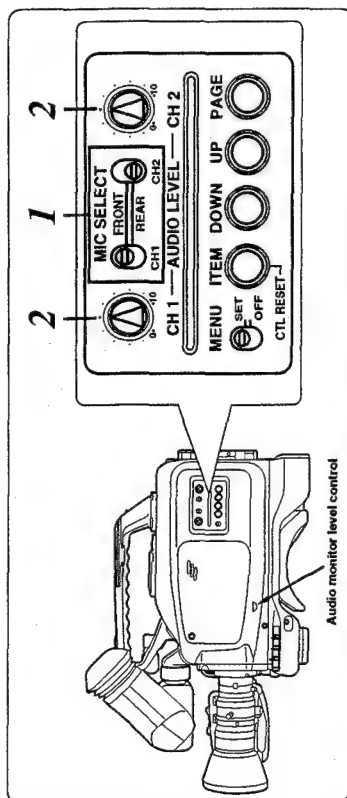
How to change the shutter speed

The SHUTTER switch is non-locking at the SELECT position. Each time it is operated at this position, the shutter speed changes in the following sequence: 1/100 → 1/125 → 1/250 → 1/500 → 1/1000 → 1/2000 → 1/4000 → 1/8000. When operated again at the 1/8000 setting, the speed returns to 1/100.

Notes:

- The higher the shutter speed setting, the darker the images will become. Check the brightness of the images in the viewfinder, and adjust the lighting and lens iris.
- When shooting extremely bright subjects with the shutter speed at a high setting, the smear effect (a form of distortion in which objects appear stretched out vertically) may be more noticeable than in the Shutter OFF condition: this is normal and not indicative of any malfunctioning.

Audio recording



1 Select the desired input signals using the audio input selector switches.

When using the built-in microphone	FRONT
When using external microphones	REAR

2 Adjust the recording levels using the audio level controls.

The recording levels can be checked in the viewfinder. Adjust the levels in such a way that the audio level meter for the viewfinder display shows "-----" or thereabouts.
(See page E-16)

Notes:

- Howling may occur when the volume of the sound delivered through the audio monitor speaker is too high. If this occurs, turn the audio monitor level control down to a level at which howling does not occur.

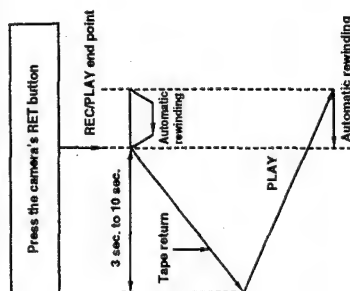
Remarks:

- The line input can be selected instead of the external microphones by setting an internal switch to the corresponding position. For further details, refer to page E-60.

E-47

Rec review

When the camera's RET button is pressed while the VTR is in the REC PAUSE mode (which is established after the tape has finished moving back automatically), rec review is conducted so that the quality of what has already been recorded can be checked.



- The amount by which the tape moves backwards can be controlled from 3 to 10 seconds by either pressing the camera's RET button and releasing it immediately or holding it down.
- The playback images appear in the viewfinder while the tape is being played back in the rec review mode.

<When no recording has yet been made near the rec review start point>
The playback images of the blank part of the tape appear in the viewfinder.

Notes:

- During the rec review operation, the rec review images are output to the video output connectors (BNC and S-VIDEO connectors) as well as to the viewfinder.
- It should be borne in mind that these rec review images will be recorded if a back-up VTR has been connected to record back-up images.

Retake

When the FF or REW button is pressed in the REC PAUSE mode, playback images at 1x normal tape speed or reverse playback images at 1x normal tape speed can be viewed while the button is held down. When the button is released, the REC PAUSE mode is re-established immediately. This function can be used to retake shots by running the tape to the desired position while checking the images and by starting recording again from that position.

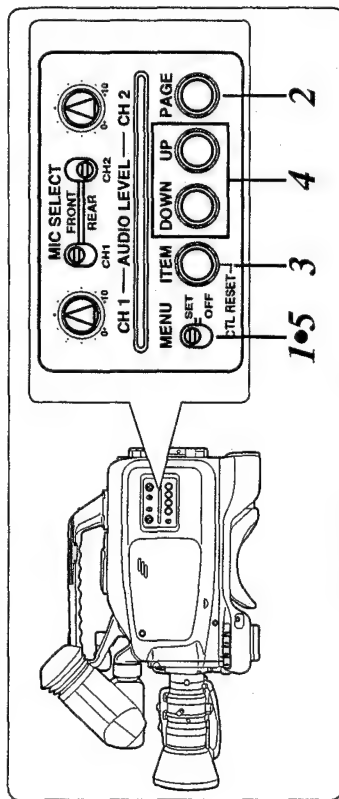
Still-picture playback

The STILL mode is established when the PLAY button is pressed during playback. Both the FF and REW LED displays in the operation section light up at this time. Normal playback is resumed when the PLAY button is pressed again.

E-48

Menu items

Setting procedure

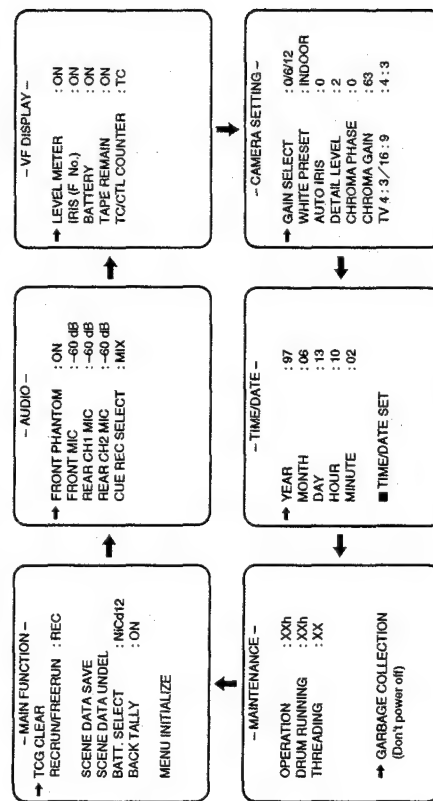


1 Set the MENU SET/OFF switch to SET.

When the MENU SET/OFF switch is set to SET while the unit is in the stop, eject or rec pause mode, the menu screen is displayed.

2 Press the PAGE button.

The menu screens are switched in succession as shown below by pressing the PAGE button.



Menu items

3 Press the ITEM button.

The ITEM button is pressed to select items on each of the menu screens. Each time the ITEM button is pressed, the arrow at the left of the screen moves. The item indicated by the arrow is the item currently selected.

4 Press the UP or DOWN button.

Press the UP or DOWN button to change the setting.

5 Upon completion of the settings, set the MENU SET/OFF switch to OFF.

The original viewfinder screen is restored.

Notes:

The setting data is stored in the built-in flash memory several seconds after the MENU SET/OFF switch has been set to the OFF position. Bear in mind that the data will not be stored correctly if the battery or AC adaptor is removed while the MENU SET/OFF switch is still at SET or immediately after the switch was changed to the OFF setting.

Menu items

AUDIO menu

- AUDIO -	
→ FRONT PHANTOM	: ON
FRONT MIC	: -60 dB
REAR CH1 MIC	: -60 dB
REAR CH2 MIC	: -60 dB
CUE REC SELECT	: MIX

Menu item	Mode setting	Description of function
FRONT PHANTOM	ON OFF	Sets the Phantom power for the front microphone to ON or OFF. ON is selected if the microphone provided with the unit is to be used.
FRONT MIC	-60 dB -50 dB -40 dB	Selects the front microphone input level setting. Select -60 dB, -50 dB or -40 dB depending on the microphone used.
REAR CH1 MIC	-60 dB -50 dB -40 dB	Selects the rear microphone CH1 input level setting. Select -60 dB, -50 dB or -40 dB depending on the microphone used.
REAR CH2 MIC	-60 dB -50 dB -40 dB	Selects the rear microphone CH2 input level setting. Select -60 dB, -50 dB or -40 dB depending on the microphone used.
CUE REC SELECT	CH1 CH2 MIX	Selects the signals to be recorded on the CUE audio track from among the CH1, CH2 and MIX signals.

The underlining for the mode settings indicates the modes selected before the unit was shipped from the factory.

E-52

MAIN FUNCTION menu

- MAIN FUNCTION -	
→ TCG CLEAR	: REC
RECRUN/FREERUN	: DIGIT
SCENE DATA SAVE	: ON
SCENE DATA UNDEL	
BATT. SELECT	
BACK TALLY	
MENU INITIALIZE	

Menu item	Mode setting	Description of function
TCG CLEAR		Clears the time code generator.
RECRUN/FREERUN	REC FREE	Selects whether the time code generator is to be used in the REC RUN or FREE RUN mode. Regeneration is conducted if REC RUN mode is selected.
SCENE DATA SAVE		Stores the SCENE data on the tape. (Refer to the section on SCENE data on pages E-57 and E-58.)
SCENE DATA UNDEL		Restores the SCENE data. (Refer to the section on SCENE data on pages E-57 and E-58.)
BATT. SELECT	NiCd12 NiCd13 NiCd14 DIGIT	Selects the type of battery to be used. NiCd12: For an AC adaptor or a 12 V nickel-cadmium battery. NiCd13: For a 13.2 V nickel-cadmium battery. NiCd14: For a 14.4 V nickel-cadmium battery. DIGIT: For a digital nickel-cadmium battery (same for both 13.2 V and 14.4 V).
BACK TALLY	ON OFF	ON is selected if the back tally LED display is to be used; OFF is selected if it is not to be used.
MENU INITIALIZE		Restores all the menu items to the settings established before the unit was shipped from the factory.

The underlining for the mode settings indicates the modes selected before the unit was shipped from the factory.

E-51

Menu items

VF DISPLAY menu

- VF DISPLAY -	
→ LEVEL METER	: ON
IRIS (F No.)	: ON
BATTERY	: ON
TAPE REMAIN	: ON
TC/CTL COUNTER	: TC

Menu item	Mode setting	Description of function
LEVEL METER	ON OFF	Selects whether the audio level meter reading is to be displayed on the viewfinder.
IRIS (F No.)	ON OFF	Selects whether the lens iris f-value is to be displayed on the viewfinder.
BATTERY	ON OFF	Selects whether the remaining battery charge is to be displayed on the viewfinder.
TAPE REMAIN	ON OFF	Selects whether the remaining tape amount is to be displayed on the viewfinder.
TC/CTL COUNTER	TC UB CTL OFF	Selects whether the viewfinder counter display is to show the time code, user bit, CTL or none of these.

The underlining for the mode settings indicates the modes selected before the unit was shipped from the factory.

E-53

CAMERA SETTING menu

- CAMERA SETTING -	
→ GAIN SELECT	: 0/6/12
WHITE PRESET	: INDOOR
AUTO IRIS	: 0
DETAIL LEVEL	: 2
CHROMA PHASE	: 0
CHROMA GAIN	: 63
TV 4:3/16:9	: 4:3

Menu item	Mode setting	Description of function
GAIN SELECT	0/6/12 0/9/18	Selects whether the 0/6/12 dB or 0/9/18 dB settings are to apply to the operation of the camera gain selector switch.
WHITE PRESET	INDOOR OUTDOOR	Selects whether OUTDOOR or INDOOR is to be set when the camera's WHITE BAL selector switch is at the PRST position.
AUTO IRIS	-3.0 : : 0 : 3.0	Selects the target brightness of the auto iris. The brightness can be set in 0.1 increments from -3.0 to 3.0. Example: When -1.5 is selected, the iris is closed by approximately 1.5 stops from the factory setting. However, there may be a slight deviation from this value.
DETAIL LEVEL	0 : 2 : 16	Finely adjusts the camera detail level. Adjustment is possible from 0 to 16.
CHROMA PHASE	-32 : : 0 : 32	Finely adjusts the camera's chroma phase. Set the value in the + direction if the skin colour is to be made redder or in the - direction if it is to be made more yellow. Any value from -32 to 32 can be set.
CHROMA GAIN	0 : : 63	Adjusts the camera's colour intensity. The higher the value, the greater the intensity of the colours. Any value from 0 to 63 can be set.
TV 4:3/16:9	4:3 16:9	Selects whether the camera is to be used for screen dimensions of 4:3 or 16:9.

The underlining for the mode settings indicates the modes selected before the unit was shipped from the factory.

E-54

Menu items

MAINTENANCE menu

- MAINTENANCE -	
OPERATION	: XXh
DRUM RUNNING	: XXh
THREADING	: XX
→ GARBAGE COLLECTION (Don't power off)	

Menu item	Description of function
OPERATION	Indicates the number of hours during which power has been supplied to the unit to date.
DRUM RUNNING	Indicates the total accumulated number of hours during which the head cylinder has been operating to date.
THREADING	Indicates the number of times a tape was loaded to date.
GARBAGE COLLECTION	<p>Gives the command to collect the garbage in the built-in flash memory. If the "FLASH MEMORY EMPTY" message appears in the viewfinder when the power is turned on, align the arrow with "GARBAGE COLLECTION," and press the UP or DOWN button. Collection of garbage in the flash memory then commences.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Once the collection of garbage in the flash memory has commenced, no operation is possible for about one minute. Upon completion of this processing, normal operation can be resumed. • While the garbage in the flash memory is being collected, do NOT turn off the power. Also ensure that the battery has an adequate charge during this operation. If the power is cut off during the processing, the collection of the garbage in the flash memory will be discontinued and not completed properly, and this will affect subsequent operation.

E-56

TIME/DATE menu

- TIME/DATE -	
→ YEAR	: 97
MONTH	: 06
DAY	: 13
HOUR	: 10
MINUTE	: 02
■ TIME/DATE SET	

Note: Make absolutely sure that the arrow is moved to the "■ TIME/DATE SET" position upon completion of the setting, and then press the UP or DOWN button. The settings will not be recorded unless the UP or DOWN button is pressed at the "■ TIME/DATE SET" position.

Menu item	Mode setting	Description of function
YEAR	00 : 99	Sets the last two digits of the year. Examples: "97" is set for 1997, and "01" for 2001.
MONTH	01 : 12	Sets the month using two digits.
DAY	01 : 31	Sets the day using two digits.
HOUR	00 : 24	Sets the hour (24-hour mode) using two digits.
MINUTE	00 : 59	Sets the minute using two digits.

E-55

SCENE data (news gathering data recording)

If SCENE data is used for future non-linear editing or other such applications, it will be possible to do the job extremely efficiently. SCENE data is an information exchange system for enhancing efficiency during editing. It operates by gathering information for editing during shooting and recording it onto the tape.

The SCENE data information consists of the following data for each cut.

Cut 1	Recording start time code	Recording stop time code	MARK
Cut 2	Recording start time code	Recording stop time code	MARK
...			
Cut 200	Recording start time code	Recording stop time code	MARK

- The recording start time code and recording stop time code are automatically written.
- MARK is written by operating buttons.
- A return is made to cut 1 when the cassette tape is replaced.
- In order to ensure frame-to-frame continuity in operation, this unit returns the tape by several frames from the position of the previous cut's recording stop, and then it starts to record the next cut (this is known as overlap recording). For this reason, the position of the SCENE data information's recording stop time code is shifted slightly from the end point of the cut recorded on the tape.

1 MARK operation

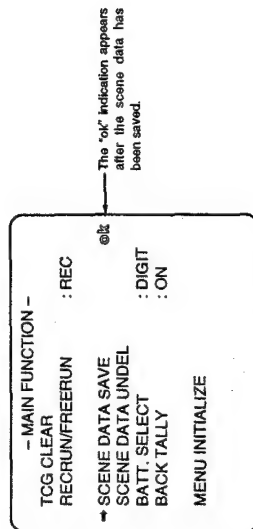
The "No MARK" status is established when recording starts. MARK is an extremely simple memo (3 types: "No MARK", "MARK 1" or "MARK 2") which is inserted during shooting to facilitate editing afterwards. Make up your own rules governing the use of these marks by, for instance, assigning "MARK 1" to one shooting session and "MARK 2" to another. When a situation arises which meets the conditions of the rules you have made up, press the MARK/CANCEL button. "MARK 1" now appears in the right corner of the viewfinder. When the MARK/CANCEL button is pressed again, "MARK 2" appears, and when the MARK/CANCEL button is pressed yet again, the CANCEL mode is established, and the "MARK" display in the right corner of the viewfinder is cleared. When the recording of the next cut is started, this "MARK" is recorded into the internal memory, and the MARK/CANCEL button may be pressed any number of times until the next recording is started.

2 Saving the SCENE data onto the tape

The SCENE data is saved before the tape is ejected. Normally, it is saved after the final cut has been shot.

Set the menu SET/OFF selector switch to SET and display the MAIN FUNCTION menu.

Menu item screen (viewfinder)



Use the ITEM button to align the arrow with the SCENE DATA SAVE position, and press the UP or DOWN button. The VTR starts operating in the recording mode. It takes about 10 seconds for the SCENE data to be saved, and "ok" indication appears.

Notes:

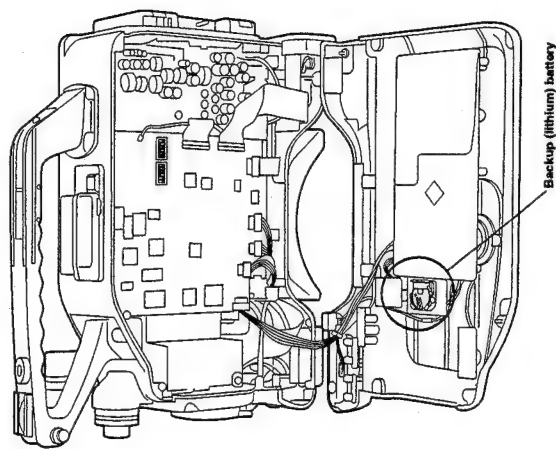
- Other operations cannot be performed while the SCENE data is being saved.
- The colors of the camera image may change while the SCENE data is being saved. This is not a malfunction. Once the SCENE data has been saved, the colors will return to their original state. Also, the camera image appears in the viewfinder and is output via the VIDEO OUT jack while the SCENE data is being saved, but an image that is completely green is recorded on the tape. This facility makes it easier during playback to find the exact position where the SCENE data was recorded.
- When the tape is ejected, the SCENE data stored to date is cleared, and the preparations are made to gather the SCENE data for the next tape.

Remarks:

- If it is absolutely essential for the data to be restored because you forgot to save it before the tape was ejected, reload the ejected tape, display the MAIN FUNCTION menu screen, and use the ITEM button to align the arrow with SCENE DATA UNDEL. The data can now be restored by pressing the UP or DOWN button. If the tape is reloaded after its ejection and recording is then started, the data will be rewritten by the SCENE data for the new tape. This means that the data cannot be restored.

Replacing the back-up battery

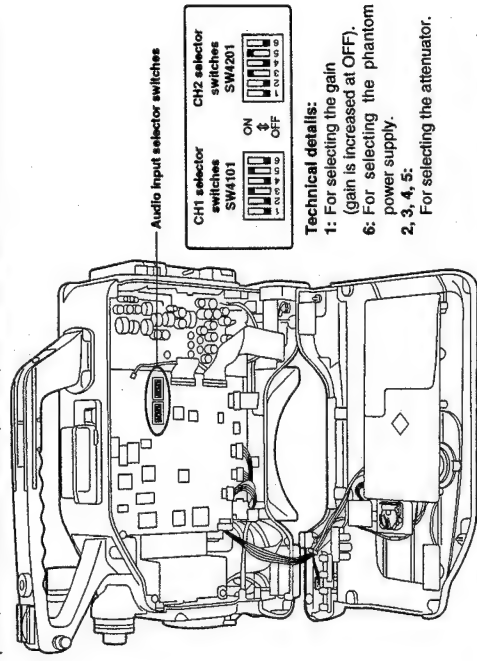
The unit is shipped from the factory with a back-up battery already installed. The "BACKUP BATTERY EMPTY" message appears in the viewfinder when the back-up battery has run down. Consult with your dealer, and replace the battery with a new one (CR2032 or BR2032).



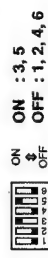
E-59

Selecting the audio input

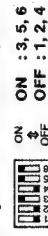
To connect phantom microphones or the line input to the audio input connectors on the rear panel, set the internal switches (audio input selector switches) to the appropriate positions.



When an ordinary microphone is used (factory settings):

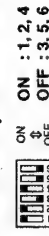


When a phantom microphone is to be used:



Set the switches to the above positions.

When the line input is to be used:



Set the switches to the above positions. The line input level can be switched to one of three settings: -6 dB, 0dB or +4 dB. It is set using the REAR CH1 MIC/REAR CH2 MIC menu item (on the AUDIO menu/see page E-52) but the menu screen display will remain unchanged even when the internal switches are set to the positions shown above. Use the table given below as a reference to convert the input level.

Menu display	For microphone	For line input
-60 dB	-60 dB	-6 dB
-50 dB	-50 dB	0 dB
-40 dB	-40 dB	+4 dB

E-60

Tips on lighting

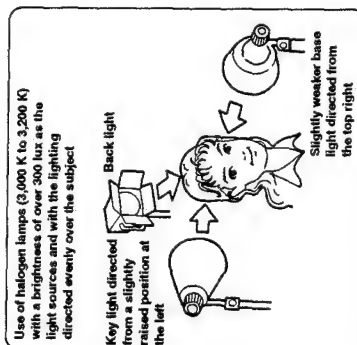
Studio lighting

Use halogen lamps with a colour temperature of 3,000K to 3,200K for lighting in a studio. If the colour temperature of the light source differs from this value, the colours of the subject will appear differently from what is seen by the eye. The shadows may take on colours or the image may not appear with the proper colours.

Use lighting of 300 lux or above. If it is less than this value, the screen may appear dark, the contrast may be insufficient, the depth of focus may be shallow or the picture quality may suffer deterioration in some other way.

Ensure that the lighting is directed evenly over the entire subject and that no shadows are formed.

Consult the table below and use the figures given, which are approximations only, as a guideline for evaluating the brightness.



Lighting required	Lighting desired	Actual shooting without lighting	ND filter required
10	• Brightness of a candle at 20 cm (10 to 15)	• Brightness of a candle at 20 cm (10 to 15)	
30	• Brightness of a cigarette lighter at 30 cm (15)	• Brightness of a cigarette lighter at 30 cm (15)	
50	• Brightness underneath a street lamp (50 to 100)	• Brightness underneath a street lamp (50 to 100)	
100	• Shopping arcade at night (150 to 200)	• Shopping arcade at night (150 to 200)	
500	• Direct beam from a flashlight at 1 m (250)	• Direct beam from a flashlight at 1 m (250)	
1,000	• Indoor area lit with fluorescent lighting (400 to 500)	• Indoor area lit with fluorescent lighting (400 to 500)	
10,000	• Sales counters of a department store (500 to 700)	• Sales counters of a department store (500 to 700)	
100,000	• Sunlight 1 hour before dusk on a clear day (1,000)	• Sunlight 1 hour before dusk on a clear day (1,000)	
	• Sunlight 1 hour after dawn on a cloudy day (2,000)	• Sunlight 1 hour after dawn on a cloudy day (2,000)	
	• By a train window in the afternoon (3,500)	• By a train window in the afternoon (3,500)	
	• Sunlight at 10 AM on a cloudy day (25,000)	• Sunlight at 10 AM on a cloudy day (25,000)	
	• Sunlight at midday on a cloudy day (32,000)	• Sunlight at midday on a cloudy day (32,000)	
	• Sunlight at 3 PM on a clear day (65,000)	• Sunlight at 3 PM on a clear day (65,000)	
	• Sunlight at 10 AM on a clear day (65,000)	• Sunlight at 10 AM on a clear day (65,000)	
	• Sunlight on a clear day (100,000)	• Sunlight on a clear day (100,000)	
	• Outdoors at midday under a cloudless sky	• Outdoors at midday under a cloudless sky	
	• On the beach at the height of summer	• On the beach at the height of summer	
	• In the mountains covered with snow	• In the mountains covered with snow	
			(Unit: lux)

Notes:

- Do not expose the lens directly to sunlight or shoot a subject for a long time which is reflecting either a bright light or the light which is used for lighting.
- Flickering may result if the camera is used to shoot under fluorescent lights. Add extra lighting such as video lights (optional accessories) in cases like this.
- If the light quantity is too great, obtain an ND filter (62 mm diameter) from a camera shop, and attach it in front of the lens.

E-61

Tips on lighting

Tips on outdoor shooting

When, while shooting a subject outdoors under clear skies or for other reason, the brightness level of the subject itself is extremely high, it is recommended that the light quantity be adjusted using the electronic shutter or that an ND filter be added in front of the lens.

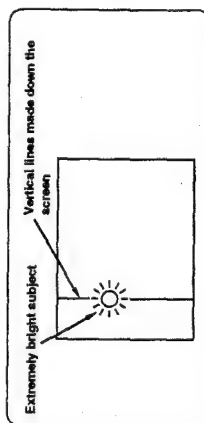
This unit does not contain an ND filter. Obtain an ND filter (62 mm diameter) from a camera store, and attach it in front of the lens.

Phenomena inherent to CCD cameras

The following phenomena are known to arise in CCD cameras.

Smear

Although this unit has extremely low smear characteristics, smear may arise when shooting an extremely bright subject.



Flicker

Flickering may occur if fluorescent lights are used for the lighting. This is the case in areas where the commercial power line frequency is 50 Hz or when a high shutter speed is used. To prevent flicker, set the electronic shutter speed to 1/100 where the commercial power line frequency is 50 Hz and to OFF where it is 60 Hz.

Moiré

Shooting a subject with striped patterns may give rise to the formation of Moiré patterns.

White streaks

White streaks may appear at high temperatures. They may be more conspicuous when the gain has been increased.

Picture roughness

Roughness in a specific pattern may appear all over the screen when the temperature is extremely high.

E-62

Troubleshooting

If you suspect trouble in your unit, proceed with the inspections or adjustments described below. Consult your dealer if the trouble persists even after you have taken the remedial action suggested.

Symptom	Inspection/adjustment	Reference page no.
<ul style="list-style-type: none"> The power fails to come on. 	<ul style="list-style-type: none"> Check if the battery still has a sufficient charge. Check if the AC adaptor has been connected securely. 	—
<ul style="list-style-type: none"> The low battery warning is given (BATT LED or TALLY LED lights or flashes). 	<ul style="list-style-type: none"> Check if the battery still has a sufficient charge. Check if the battery setting menu item has been set correctly. If the AC adaptor is being used, use the NiCd12 setting for the battery selection menu item. 	E-16 E-51
<ul style="list-style-type: none"> The "BACKUP BATTERY EMPTY" message appears when the power is turned on. The real time is not correct. 	<ul style="list-style-type: none"> The back-up battery may have reached the end of its service life (approx. 1 year). Consult with your dealer and replace it with a new one. 	E-17 E-59
<ul style="list-style-type: none"> No operation results when the function buttons are pressed. 	<ul style="list-style-type: none"> Check the viewfinder for error messages. 	E-17 E-18
<ul style="list-style-type: none"> The tape cannot be fast forwarded or rewind. 	<ul style="list-style-type: none"> Check if the tape has already been fast forwarded or rewind all the way to the end or beginning of the tape. 	—

E-63

Condensation

Condensation may form on the head cylinder when the unit is moved from a cold location into a warm room or when it is operated in a humid environment.

The principle behind this phenomenon is the same as when droplets of water form on the window panes of a heated room.

These droplets are called condensation. If the tape is made to travel when condensation has formed, the head cylinder and tape may be damaged.

Take the following precautions regarding condensation:

- Before inserting the cassette tape, set the power switch to ON, and check that the VTR LED or TALLY LED is not lighted or flashing and that the HUMID display is not lighted on the display panel.
- Whenever possible, avoid operating the unit in situations where condensation is likely to form.
- When the unit is to be moved, remove the cassette tape before moving it.
- If the HUMID display flashes while the cassette tape is already loaded, take the following steps.
 - Turn on the power.
 - Press the EJECT button to eject the cassette tape.
 - Wait until the HUMID display stops flashing.
 - Once the HUMID display has stopped flashing, insert the cassette tape and run it.
 - Check that no trouble occurs.

E-64

Maintenance

- The unit has a precision-made construction inside which is designed to deliver a high performance. Take care to conduct proper maintenance in order to keep the unit in perfect working order for many years to come. Sophisticated technology and equipment are required to replenish the oil, replace the parts or adjust the electrical components. Consult your dealer as to when these steps need to be taken.
- Failure to adhere to the maintenance and inspection routine, which involves removing the dirt and dust from inside, replenishing the lubricating oil and replacing the worn parts (such as heads), will make it impossible for the unit to produce quality pictures and proper recordings. It will also shorten the unit's service life. Ensure that the unit is maintained and inspected well ahead of time.

Cleaning the heads

When the heads need to be cleaned, use the AJ-CL12LP cleaning cassette. Follow the handling instructions accompanying the cleaning cassette since the video heads may be damaged if it is used incorrectly.

Cleaning the lens

- Maintain and inspect the lens once a year.
- Wiping the lens may leave scratches on it. Use an air blower or a brush with soft bristles to blow or brush away the dirt or dust which may have accumulated on the lens surface.
- If grease or fingerprints have been left on the lens, use a lens cleaner available from a camera shop, and wipe the lens starting from its center. Make circular motions and work towards the edges.

Ensure that droplets of water will not find their way to the lens when shooting in rainy or snowy conditions.
Once the lens has been removed from the camera, attach the lens cap to prevent dust and dirt accumulating on the inside of the lens.

Cleaning the viewfinder

- Do not use paint thinners or other solvents to remove dirt on the viewfinder.
- Use a lens cleaner available from a camera shop to wipe the lens.
- Under no circumstances must the mirrors be touched. Use an air blower available from a camera store to blow away any dirt or dust which may have accumulated on them.

Service Menu

The following menu allows service personnel for service the AJ-D200.

1. Software Version Menu

Set the MENU SET/OFF switch to SET while the **UP** and **DOWN** button depressed.

It will display Software version of System Control and Servo.

2. Error Record Menu (Servo Option Menu)

Set the MENU SET/OFF switch to SET while the **UP** and **ITEM** button depressed.

The following menu appear in the View Finder.

--- SERVO OPTION MENU ---						
CTL / ATF SELECT : ATF						
97	06	05	10	20	30	0F
00	00	00	00	00	00	00
00	00	00	00	00	00	00
00	00	00	00	00	00	00
00	00	00	00	00	00	00
①	②	③	④	⑤	⑥	⑦

Example

1997 June 5th AM10:20:30

Loading Error

① Year ② Month ③ Day ④ Hour ⑤ Minute ⑥ Second ⑦ Error Code

Error Code	Error
04	Detected abnormal condition of the Brake or Pinch Solenoid.
08	Detected abnormal condition of the Cleaning Solenoid.
0F	Detected loading or unloading operation not completed less than 10 seconds.
0E	Detected Drum motor locked up for 3 seconds.
0D	Detected Capstan motor locked up for 1.5 seocnds.
0C	Detected Take Up motor locked or abnormal speed condtion up for 3 seconds
0B	Detected Supply motor locked or abnormal speed condtion up for 3 seconds
FF	Detected communication error between System Control and Servo.
09	Detected serial clock communication error from Servo.
0A	Detected DEW condtion.
11	Detected no Frame pulse.

3. TC / UB / CTL Set Menu

Set the MENU SET/OFF switch to SET while the **DOWN** and **PAGE** button depressed.

The following menu appear in the View Finder.

--- TC DATA SET ---

→ HOUR : 00
MINUTE : 00
SEC : 00
FRAME : 00

■ TC DATA SET

1. Select item by ITEM button.
2. Change data by UP or DOWN button.
Hour: 0~23 Minute: 0~59
Second: 0~59 Frame: 0~29
3. Select ■ TC DATA SET by ITEM button.
4. Press UP or DOWN button to set the data.
(change flush to light)

↓ Press PAGE button.

--- UB DATA SET ---

→ HOUR : 00
MINUTE : 00
SEC : 00
FRAME : 00

■ UB DATA SET

1. Select item by ITEM button.
2. Change data by UP or DOWN button.
Hour: 0~FF Minute: 0~FF
Second: 0~FF Frame: 0~FF
3. Select ■ UB DATA SET by ITEM button.
4. Press UP or DOWN button to set the data.
(change flush to light)

↓ Press PAGE button.

--- CTL DATA SET ---

→ HOUR : 00
MINUTE : 00
SEC : 00
FRAME : 00

■ CTL DATA SET

1. Select item by ITEM button.
2. Change data by UP or DOWN button.
Hour: 0~23 Minute: 0~59
Second: 0~59 Frame: 0~29
3. Select ■ CTL DATA SET by ITEM button.
4. Press UP or DOWN button to set the data.
(change flush to light)

↓ Press PAGE button to return TC DATA Set menu.

PC-EVR Adjustment Program

1. Adjustment Program Requirement

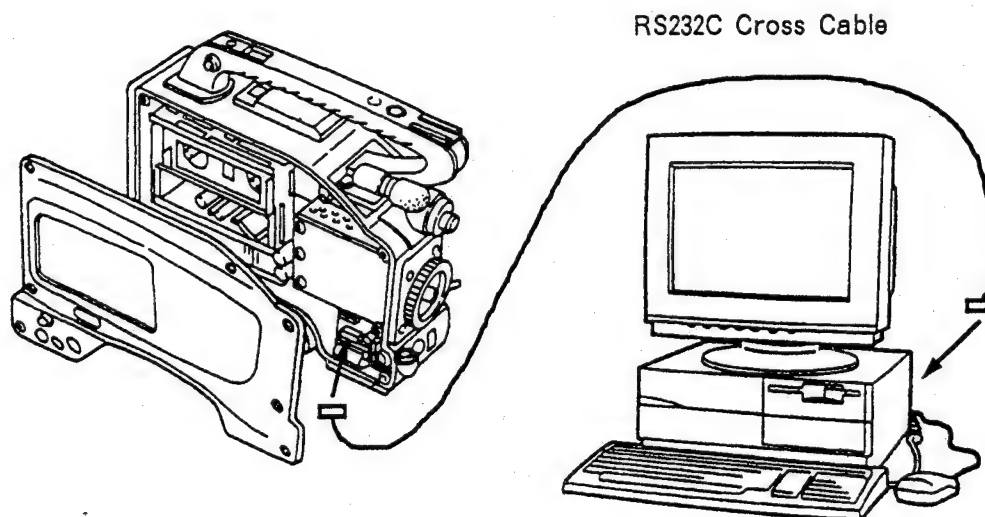
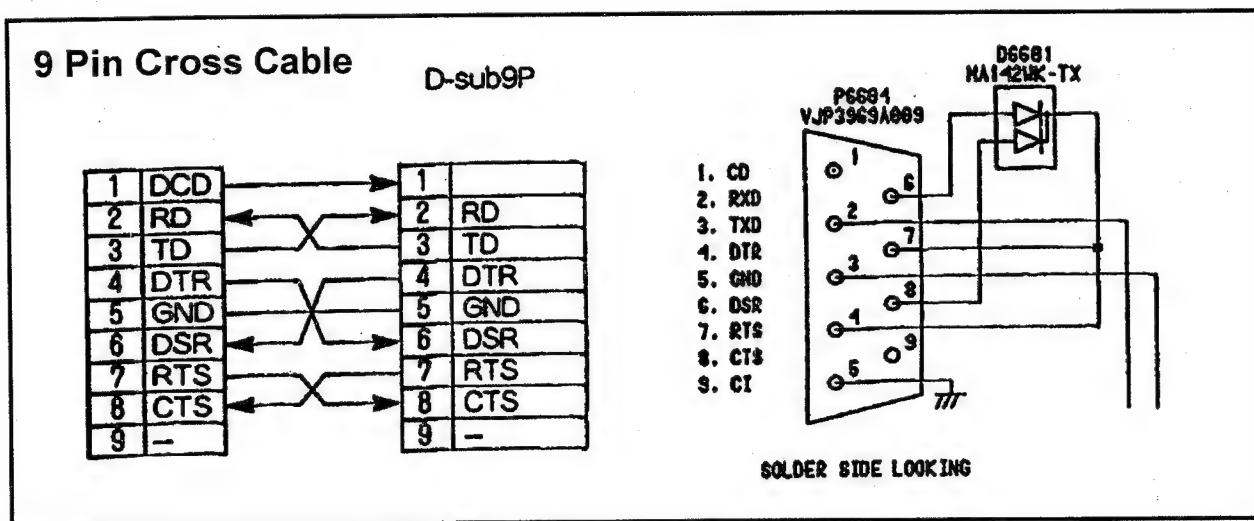
- PC-EVR Adjustment Software (VFK1340)
- Personal Computer (with WINDOWS Ver. 3.1 or WINDOWS 95)
- RS232C Cross Cable (9 Pin Female)

2. Set Up the Program & PC-EVR Connection

Install the Adjustment Program (VFK1340) floppy disk to the hard disk in personal computer.

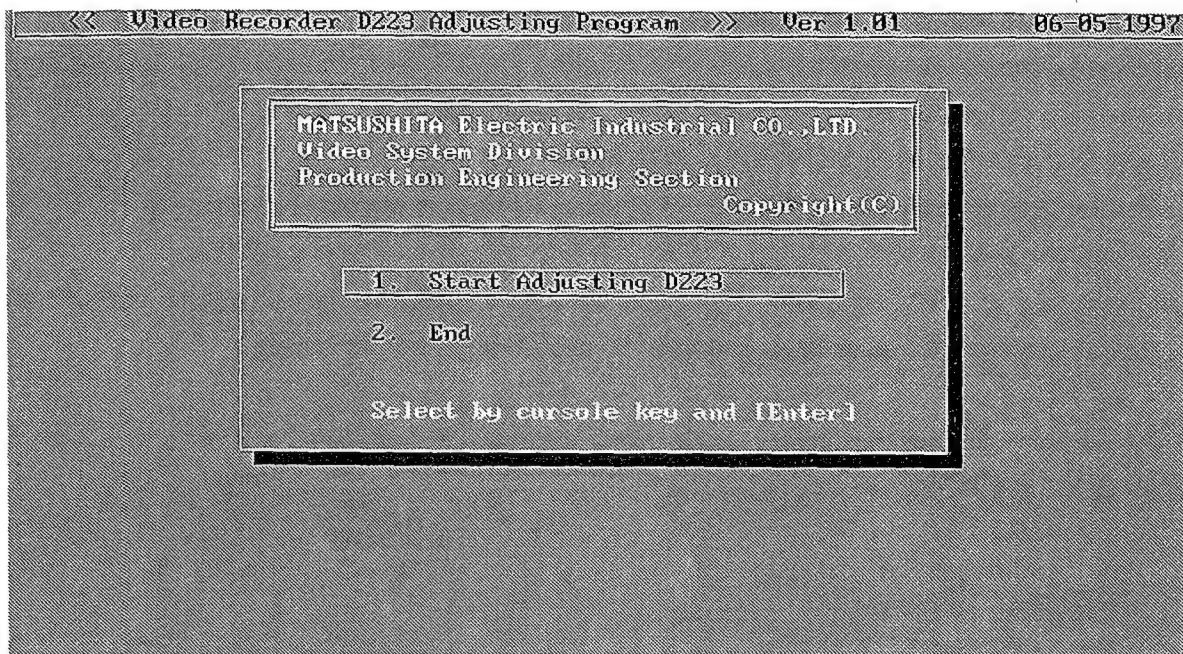
Place FD in the Floppy Disk drive and copy 【 VSD 】 holder to the Hard Disk drive (C drive).

Connect the serial port of PC and P6604 of the TEST Connection C.B.A. at right side of the unit with 9 pin cross cable. (Please remove the Cassette Cover and Right Panel before perform adjustment.)



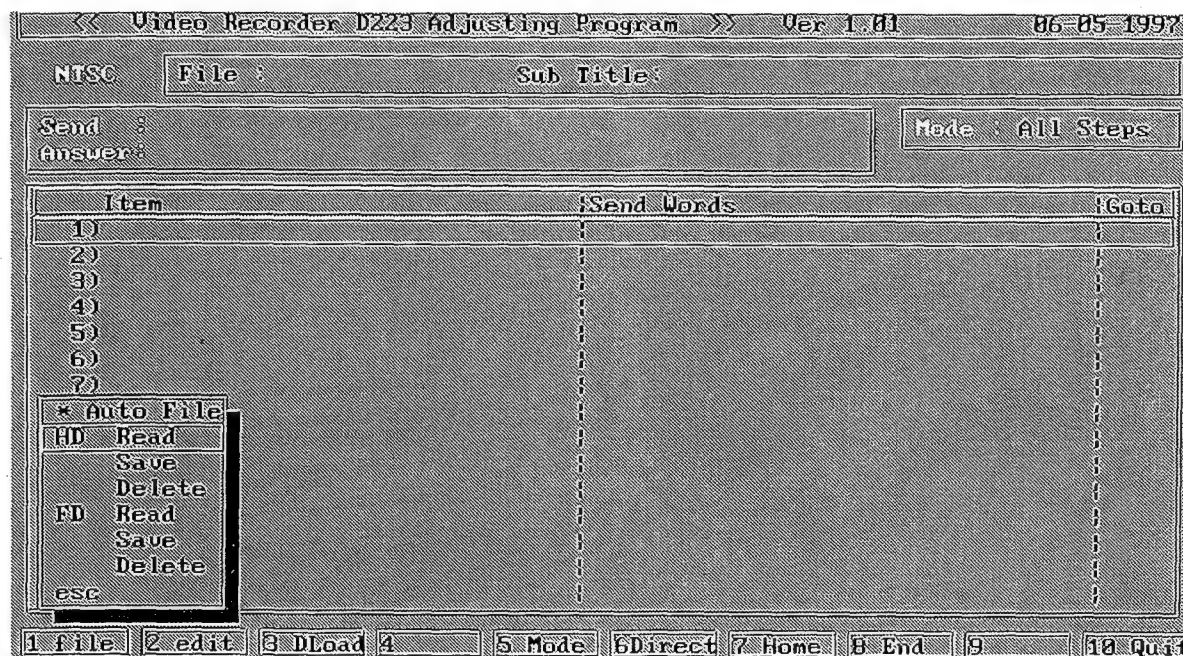
2. Start Up the Program

Type **CD VSD** and press Enter key at DOS prompt. Type **ADJVD** and press Enter key. Type **ADJVD038** then start this adjustment program and following title appears on the screen.

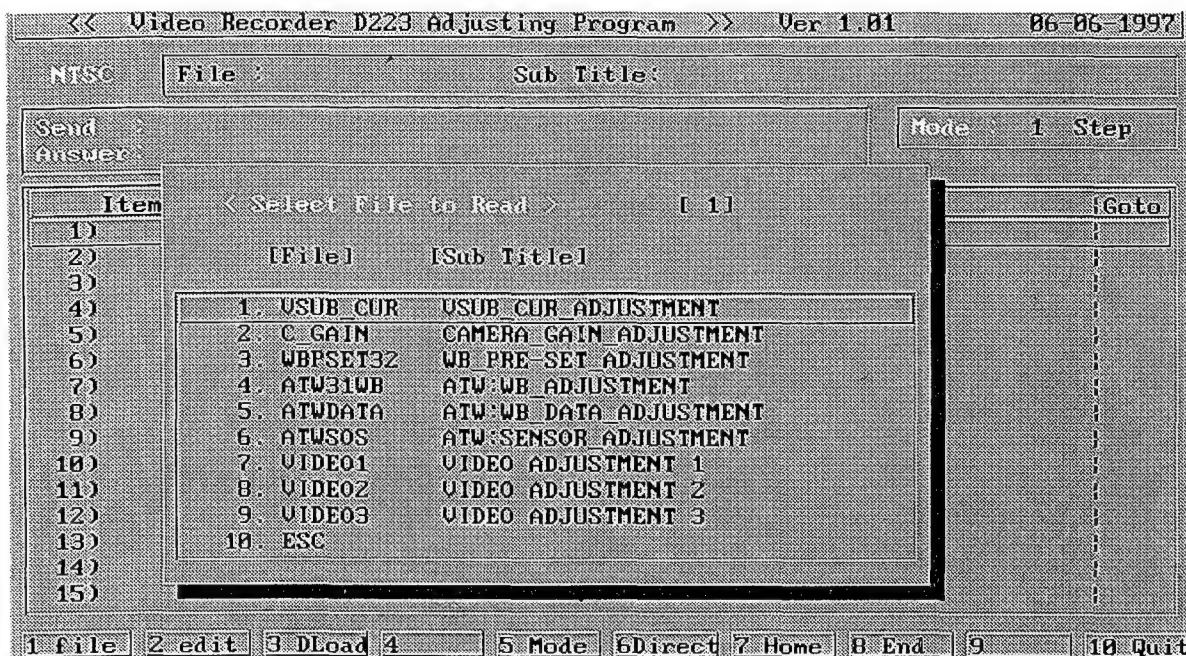


Select the **1. Start Adjusting D223** and press Enter key. Next appears **NTSC / PAL** (select **PAL**) and press Enter key.

The *** Auto File** window appear at left bottom on screen and select **HD Read** by **↑ ↓** key and press Enter key.

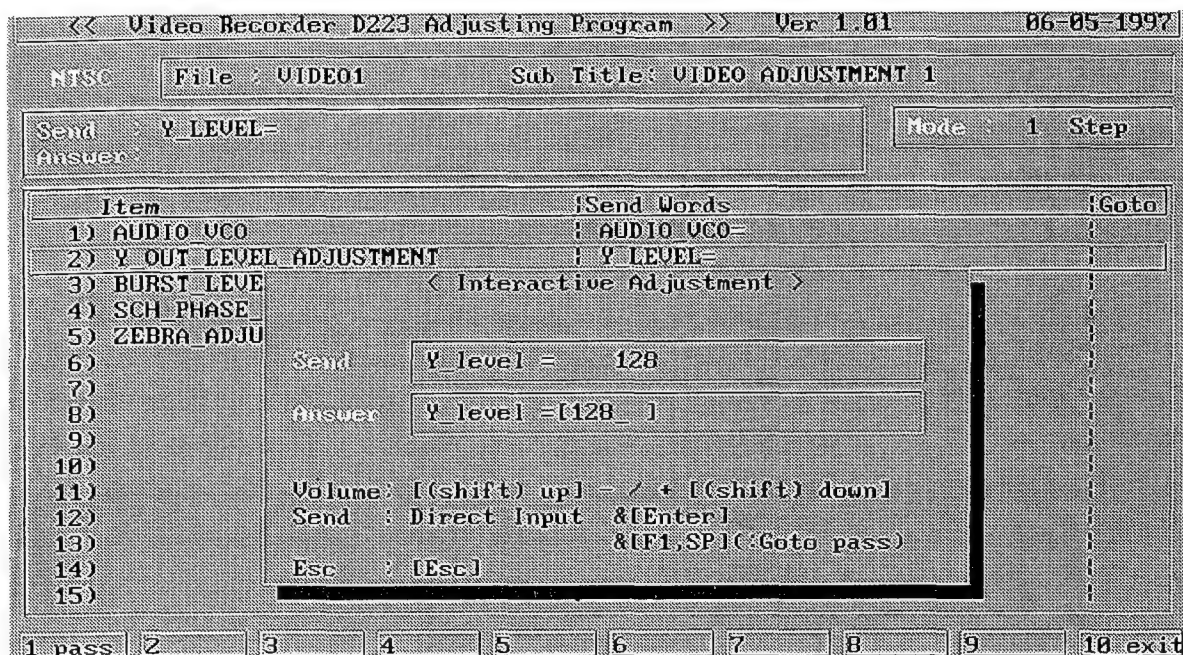


The < Select File to Read > window appear and select **Sub_Title** refer to each adjustment procedure by ↑ ↓ key and press Enter key.



Move to other **Sub_Title**, press **F1 (File)** key after completed adjustment. It will appear *** Auto File** window and select HD Read. Therefore < Select File to Read > window appear again.

The < Interactive Adjustment > window will appear when selected adjustment item as following. Press ↑ ↓ key to change value of data, then press Enter and ESC key write data in EEPROM.



After pressed ESC key the following window appear on screen. **Do you stop the following Adjustment?**
 If want to go next item : select **Continue** and press Enter key. If want to Exit : select **Stop** and press Enter key.

<< Video Recorder D223 Adjusting Program >> Ver 1.01 06-05-1997

NTSC File : VIDEO1 Sub Title: VIDEO ADJUSTMENT 1

Send : Y_LEVEL= Answer :

Mode : 1 Step

Item	Send Words	Goto
1) AUDIO VCO	AUDIO VCO=	
2) Y OUT LEVEL ADJUSTMENT	Y_LEVEL=	
3) BURST LE		
4) SCH PHAS		
5) ZEBRA AD		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		

Do you stop the following Adjustment?

Stop Continue

1 pass 2 3 4 5 6 7 8 9 10 exit

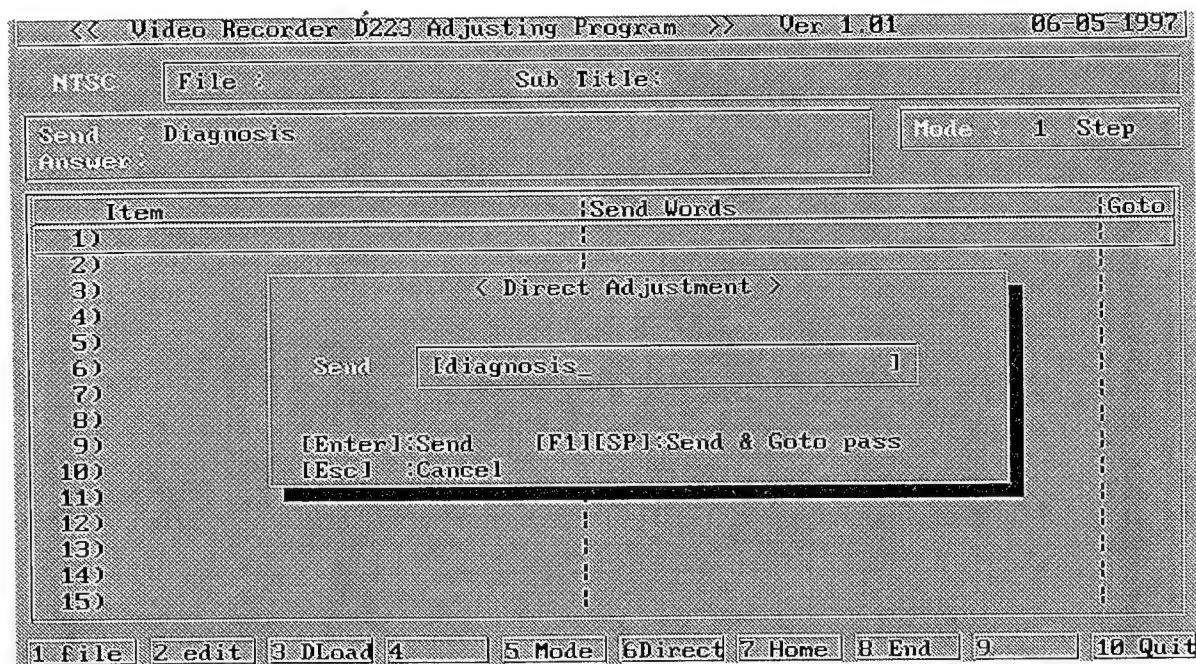
Direct Command List

Command	Contents
DIAGNOSIS	Inquire of the Return Operation Hours, and Syscon & Servo soft versions.
ADJMODE	Inquire of the Servo mode setting (Servo mode, Conceal, ECC and Dolby).
SETUPMENU	Inquire of the Menu set up.
INITIALIZE=OPERATION	Clear of the Operation hours.
INITIALIZE=DRUM RUNNING	Clear of the Drum rotation hours.
INITIALIZE=THREADING	Clear of the Loading times.
INITIALIZE=MENU	Initialize the Menu to the Factory default setting.
SYNC	Force the adjustment data write into the Flush-memory.
CONCEAL=ON	Conceal ON.
CONCEAL=OFF	Conceal OFF
INNERECC=ON	Inner ECC ON
INNERECC=OFF	Inner ECC OFF
OUTERECC=ON	Outer ECC ON
OUTERECC=OFF	Outer ECC OFF
DOLBY=ON	Dolby ON
DOLBY=OFF	Dolby OFF

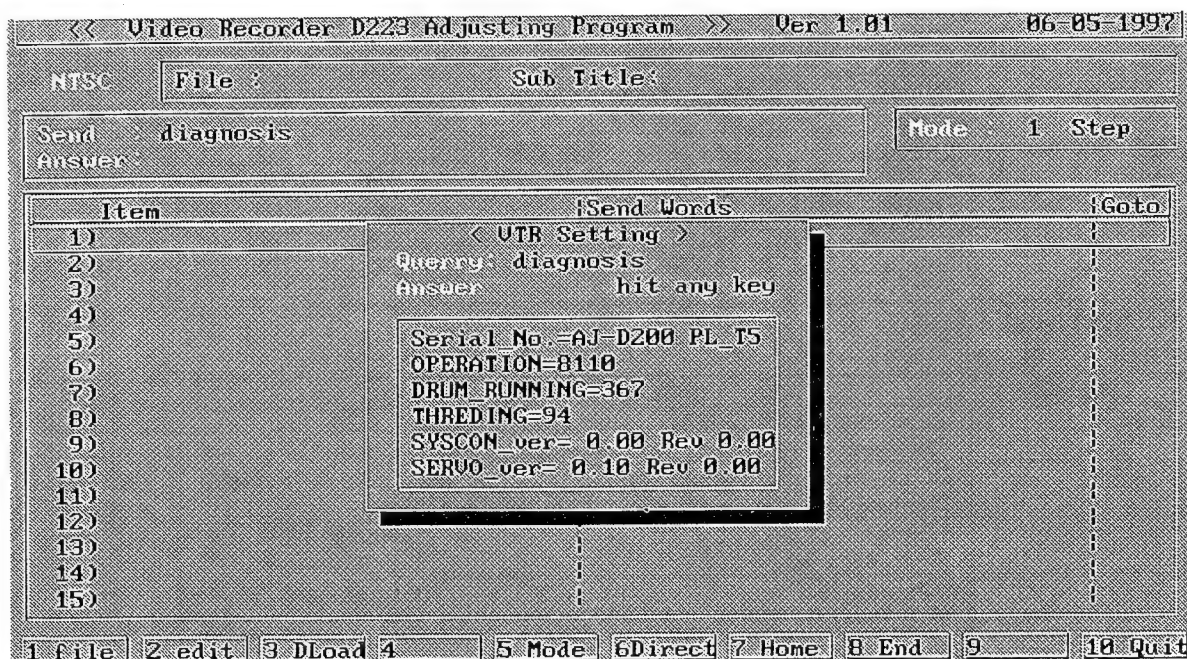
Direct Command operation.

Press **F6 (Direct)**, < **Direct adjustment** > window appear on screen as shown in below.

Example: Type **diagnosis** and press Enter key. Therefore appear return data from unit.



Example: < **VTR Setting** > shows Serial No., Operation hours, Drum rotation hours, Loading threading time and System Control & Servo Processor version.



Tool List

Fig	ITEM	PART No.	JIG & EQUIPMENT	AJ-D700	AJ-D230	Remark
1	Jig Tool	VFK1145	Back Tension Meter (T2-M30-P)	yes	yes	
2		VFK1149	Post Driver	yes	yes	
3		VFK71	Dial Torque Gauge (150g)	yes	yes	
4		VFK1191	Dial Torque Gauge (45g)	yes	yes	
5		VFK1152	Dial Torque Gauge Adaptor	yes	yes	
6		VFK0357	Eccentric Screwdriver (1.5)	yes	yes	
7		VFK1154	Post Height Fixture	yes	yes	
8		VFK1348	Mech. Neutral Plate (Post)	no	yes	New
10		VFK1155	Neutral Position Tool (Gold)	yes	yes	
11		VFK1156	Neutral Position Tool (Black)	yes	yes	
12		VFK1208	Neutral Position Tool (Black w/Hole)	yes	yes	
13		VFK1150	Nut Driver (5.5mm)	yes	yes	
14		VFK1151	Nut Driver (2.5mm)	yes	yes	
15		VFK1188	Dial Tension Gauge (30g)	yes	yes	
16		VFK0948	Check Light	yes	yes	
17		VFK0749	Froiral Grease (for plastic)	yes	yes	
18		MOR265	Morlytone Grease (for metal)	yes	yes	
19		VFK1146	Philips Driver (Fine) (00-75)	yes	yes	
20		VFK1147	Philips Driver (Fine) (0-100)	yes	yes	
21		VFK1148	Hex. Driver (1.5)	yes	yes	
22		VFK1178	Hex. Driver (0.89)	yes	yes	
23		VFK1179	Hex. Driver (0.71)	yes	yes	
24		VFK1190	HEX. Wrench	yes	yes	
25		VFK1209	Torque Driver (0.4-3Kg)	yes	yes	
26		VFK0912	Post Axis Driver (1.5mm)	yes	yes	
27		DAQ-12	A/D Board	yes	yes	Purchase locally
28		VFM3680KL	Alignment Tape (No. 1)	no	yes	New (PAL only)
29		VFM3681KL	Alignment Tape (No. 2)	no	yes	New (PAL only)
30		VFM3682KL	Alignment Tape (No. 3)	no	yes	New (PAL only)
31		AJ-CL12LP	Cleaning Tape	no	yes	SALES
32		VFK1159	LISTA Software	yes	yes	
33		VFK1186	LISTA CABLE	yes	yes	
34		VFK1340	PC-EVR Adjustment Software	no	OK	New (PAL only)
35		VFK1341	CC Filter (LB40)	no	OK	New
36		VFK1343	CC Filter (LA40)	no	OK	New (PAL only)
37		VFK1347	CC Filter (LB120)	no	OK	New
38		VFK1345	CC Filter Holder	no	OK	New
39		VFK1346	CC Filter Holder Step Down Ring	no	OK	New
40		VFK1158	B.E.R. Counter Tool	yes	OK	
41		VFK1185	B.E.R. Counter Cable	yes	OK	
42		VFK1248A	Flush ROM Version-Up Software	no	yes	
43		- - -	9 Pin Reverse (Cross) Cable	no	yes	Purchase locally

Alignment Tape

VFM3680KL (No. 1)

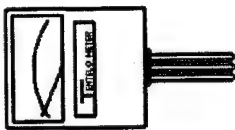

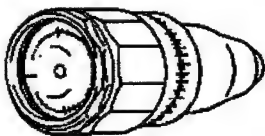



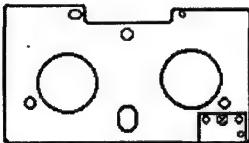





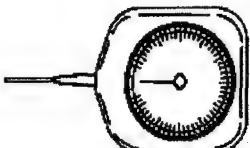






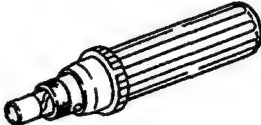
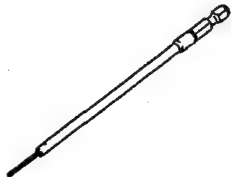
TIME (min)	VIDEO	CUE	PCM
0:00~	Colour Bar SMPTE (75%) (Component Video Level Confirmation)	1KHz 0VU (CUE Level Confirmation)	1KHz -20dB (Audio Level Confirmation)
7:00~	Colour Bar Full Field (100%) (Composite Video Level Confirmation)		
14:00~	H Sweep (Frequency Response)	6KHz 0VU (A/C Head Azimuth)	
18:00~	Bowtie (500K) (Y/C Timing)		
22:00~	Pulse & Bar (Y/C Timing)	1KHz 300Hz~6KHz (Frequency Response)	
26:00~	Area Markers		

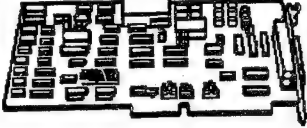
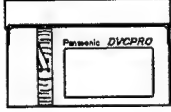
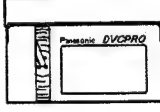
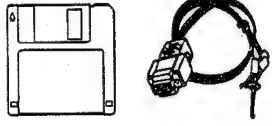
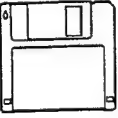



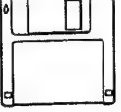
VFM3681KL (No. 2)

TIME (min)	Signal
0:00~20:00	ITI Pattern (LISTA adjustment)

VFM3682KL (No. 3)

TIME (min)	Signal
0:00~10:00	X Value (A/C Head Adjustment)

<p>1 VFK1145 Back Tension Meter</p>  <p>Model: T2-M30-P</p>	<p>2 VFK1149 Post Driver</p> 	<p>3 VFK71 (150g) 4 VFK1191(45g) Dial Torque Gauge</p> 	<p>5 VFK1152 Dial Torque Gauge Adapter</p> 
<p>6 VFK0357(φ 1.5) Eccentric Screwdriver</p> 	<p>7 VFK1154 Post Height Fixture</p> 	<p>8 VFK1348 Mech Neutral Plate(Post)</p> 	<p>9 Open</p>
<p>10 VFK1155 (REV, Gold) 11 VFK1156 (PLAY, Black) 12 VFK1208(Neutral,Black With hole)</p>  <p>(Gold) (Black)</p>	<p>13 VFK1150 Nut Driver(5.5mm)</p>  <p>5.5mm</p> 	<p>14 VFK1151 Nut Driver(2.5mm)</p>  <p>2.5mm</p> 	<p>15 VFK1188(30g) Dial Tension Gauge</p> 
<p>16 VFK0948(or purchase locally) Check Light</p> 	<p>17 VFK0749 Froiral Grease(White) (for plastic part)</p> 	<p>18 MOR265 Morlytone Grease(Black) (for metal part)</p> 	<p>19 VFK1146 (00 x 75) 20 VFK1147 (0 x 100) Philips Driver</p> 
<p>21 VFK1148(1.5mm) 22 VFK1178(0.89mm) 23 VFK1179(0.71mm) Hex. Driver</p> 	<p>24 VFK1190 (1.5mm) Hex. Wrench</p> 	<p>25 VFK1209 Torque Driver(0.4-3Kg)</p> 	<p>26 VFK0912 Post Axis Driver(1.5mm)</p> 

<p>27 DAQ-12 A/D Converter Board (For Quatech. Purchase Locally)</p> 	<p>28 VFM3680KL 29 VFM3681KL 30 VFM3682KL DVC PRO Alignment Tape (L cassette)</p> 	<p>31 AJ-CL12LP Cleaning Tape (L cassette)</p> 	<p>32 VFK1159 LISTA Software 33 VFK1186 LISTA Cable</p> 
<p>34 VFK1340 PC-EVR Adjustment Software</p> 	<p>35 VFK1341 (LB40) 36 VFK1343 (LA40) 37 VFK1347 (LB120) CC Filter</p> 	<p>38 VFK1345 CC Filter Holder 39 VFK1346 CC Filter Holder Step Down Ring</p> 	<p>40 VFK1158 B.E.R. Counter Tool 41 VFK1185 B.E.R. Counter Cable</p> 
<p>42 VFK1248A Flush ROM Version-Up Software</p> 			

SECTION 2

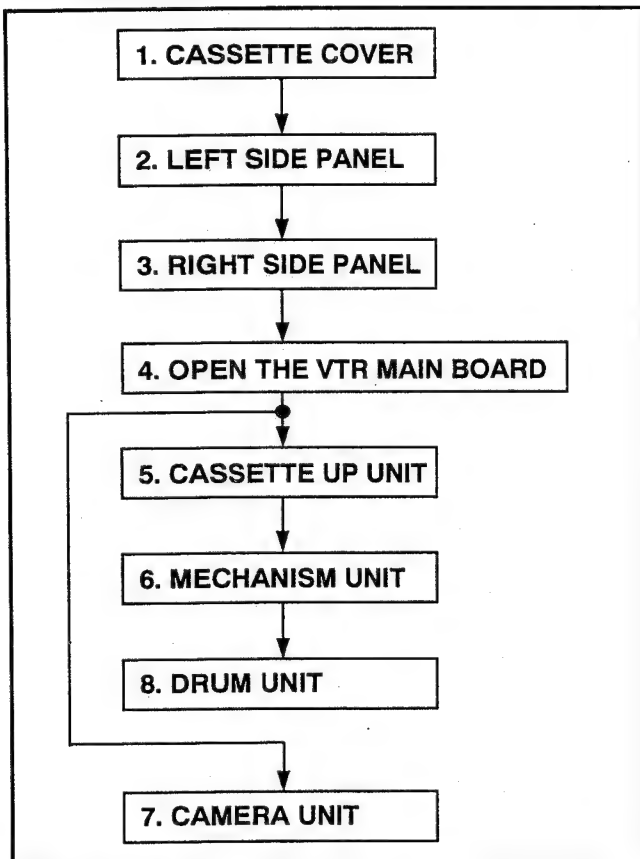
DISASSEMBLY PROCEDURE & MECHANICAL PART REPLACEMENT

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DISASSEMBLY PROCEDURE

This flow chart indicates the disassembly steps the cabinet pares, P.C. Boards and Mechanism Unit in order to access to items to be serviced. When reinstalling, perform the steps in the reverse order.



DISASSEMBLY METHOD

1. Removal of Cassette Cover

Loosen the 2 screws (A) and slide the cover upward then remove it.

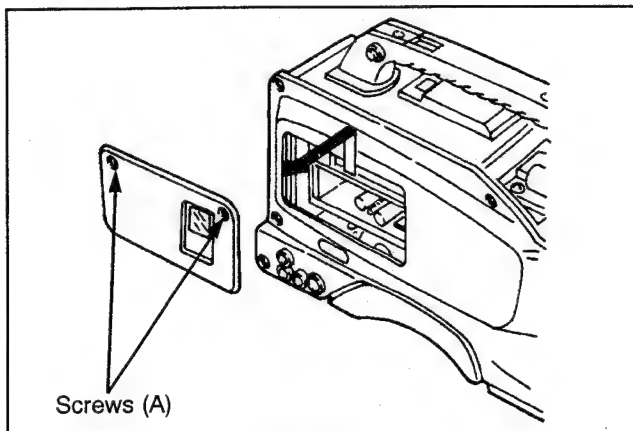


Figure 1-1

2. Removal of Left Side Panel

After removing the cassette cover, loosen the 7 screws (B) and remove the panel.

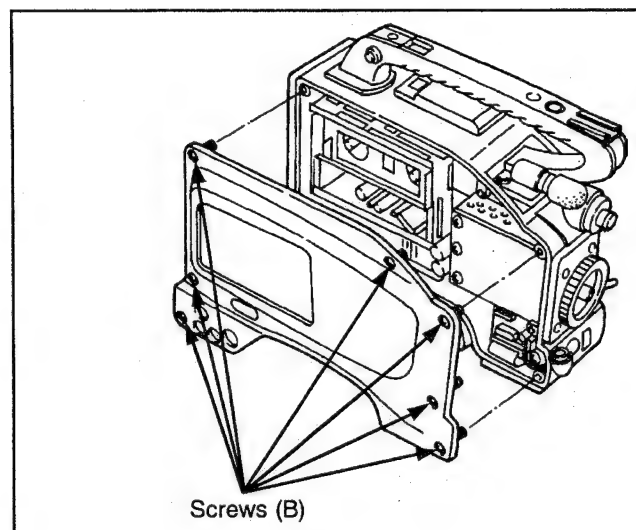


Figure 1-2

3. Removal of Right Side Panel

Loosen the 7 screws (C) carefully disconnect the P10 connector on the VTR Main C.B.A.

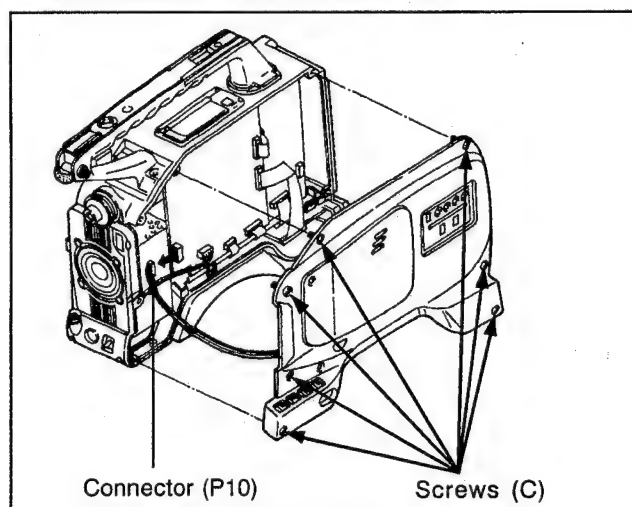


Figure 1-3

4. Open the VTR Main & Power C.B.A.

After removing the right side panel, unscrew the 2 screws (D), 1 screw (E) on the VTR Main board and 3 screws (F), 1 screws (G) on the Power board, then lay down the boards.

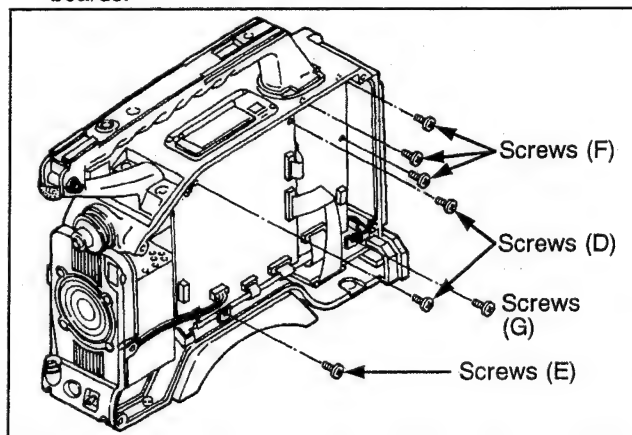


Figure 1-4

5. Removal of Cassette Up Unit

After removing the left side panel, unscrew the 4 screws (H) and remove it.

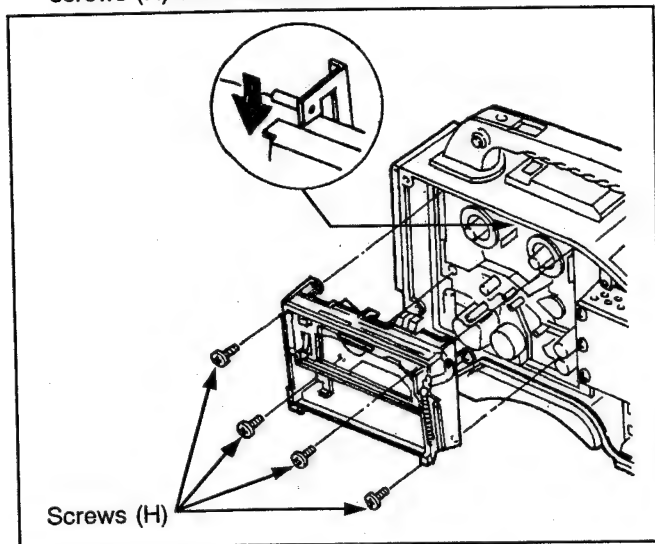


Figure 1-5

6. Removal of Mechanism Unit and Servo C.B.A.

After removing the loth side panel, disconnect the P3001 felxible cable on the VTR Main board.

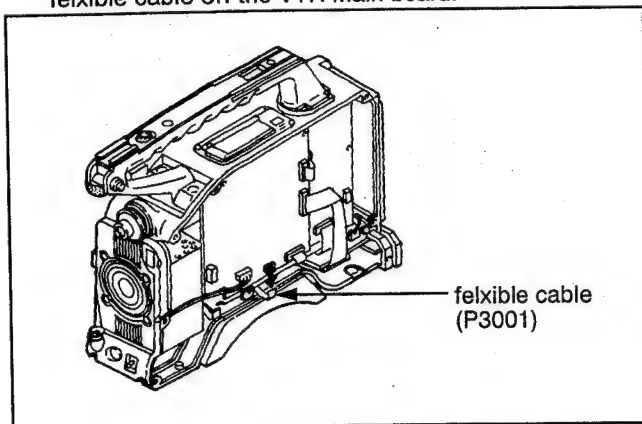


Figure 1-6

Open the board, Disconnect the P2615 connector and P2619 felxible on cable on the VTR Main board.

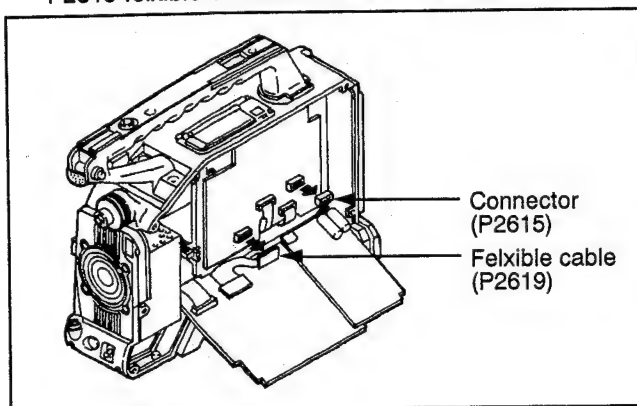


Figure 1-7

Unscrew the 2 screws (J) and slightly pull the AV Out unit then disconnect the P1005 on the Real Jack board. Unscrew the 3 screws (K), Remove the mechanism chassis and the Screw board with care not to scratch the connectors and cables.

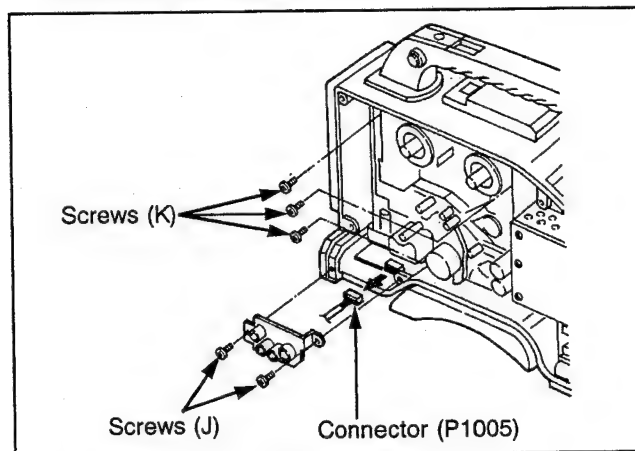


Figure 1-8

7. Removal of Camera Unit

After removing the both panels, disconnect the P6601, P6602 felxible cables and the P6605 connector. Unscrew the a screw (L) on the test connector board.

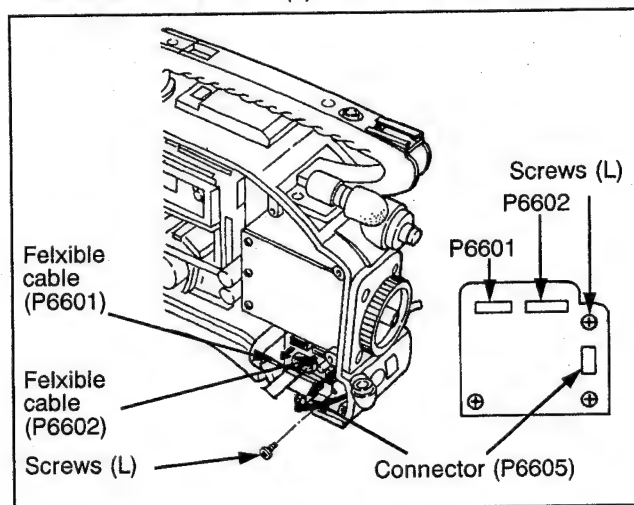


Figure 1-9

Disconnect the P7 connector and the P1 felxible cable on the VTR Main board.

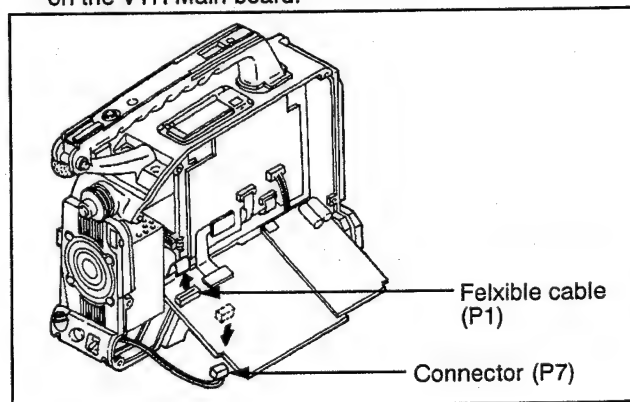


Figure 1-10

Unscrew the 4 screws (M) and pull out the camera unit.

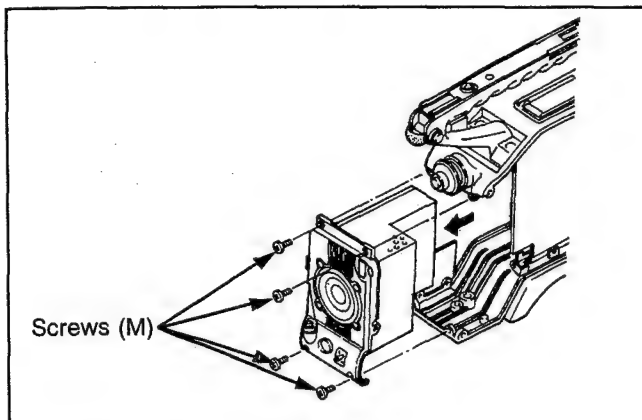


Figure 1-11

8. Removal of Drum Unit

After removing the mechanism unit, disconnect the P613 flexible cable.

Hold the top of the drum unit and unscrew the 3 screws (N).

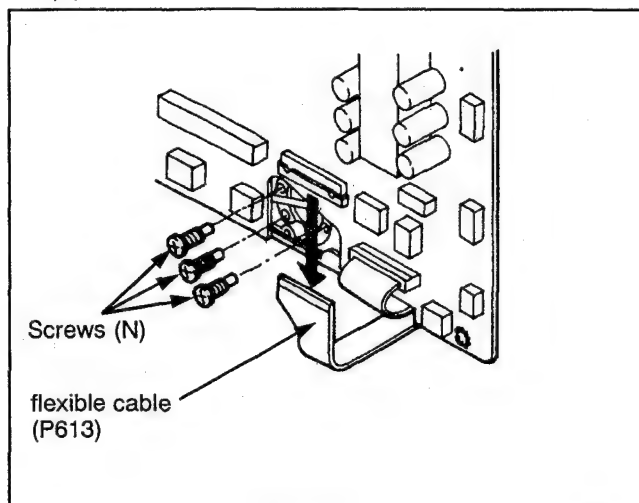


Figure 1-12

Remove the drum unit with care not to scratch the cables.

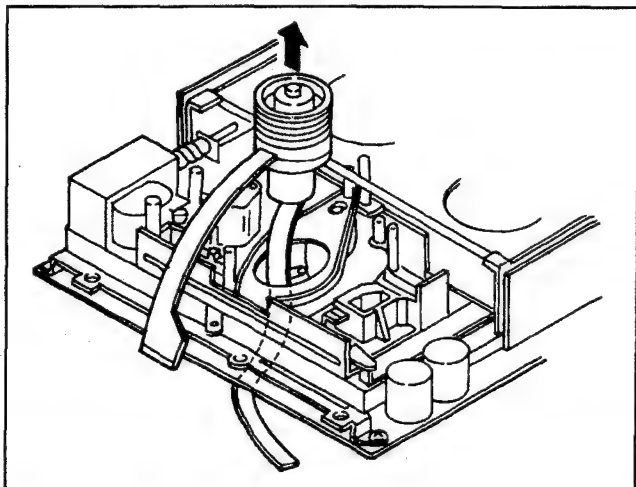


Figure 1-13

9. Emergency Eject

If the cassette tape cannot be ejected with pressing EJECT button or the cassette tape may be damaged by ejecting it, the cassette tape should be ejected out by the following steps.

1. Turn the power off.
2. Open the rubber cap above the GEN LOCK IN connector. Push in and rotate the red screw counterclockwise.
3. The tape is unloaded with click.
4. Continue until the cassette tape is ejected.

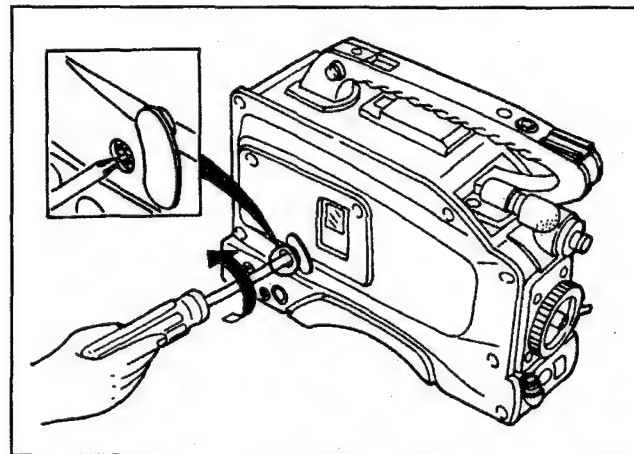


Figure 1-14

Maintenance Schedule

No.	Name	Part Number	Using Hours					
			2,000	4,000	6,000	8,000	10,000	12,000
—	Tape Path Cleaning	- - -	△ Clean the Tape Path at each 500 hours					
1	Cylinder Unit	VEG1408	●	●	●	●	●	◎
2	Pinch Arm Unit	VXL2684		● ■		● ■		◎
3	Cleaning Arm Unit	VXL2748	●	●	●	●	●	◎
4	S Reel(Rotor Unit)	VEM0633			●			◎
5	T Reel(Rotor Unit)	VEM0634			●			◎
6	S Brake Arm	VXL2755			●			◎
7	T Brake Arm	VXL2756			●			◎
8	Thrust Screw Unit	VXQ0556			● ▲			◎
—	Mech. Chassis Unit	VXY1287						●
—	1.5" CRT (EVF)	M04KYS07WB	● 5,000 hours by the Operation time					

Note: Using Hours are based on the Drum Rotation hours.

Using hours are recommendation. It may depend on temperature, humidity or dusty.

Using hours are listed as the reference of maintenance. They do not mean guarantee hours.

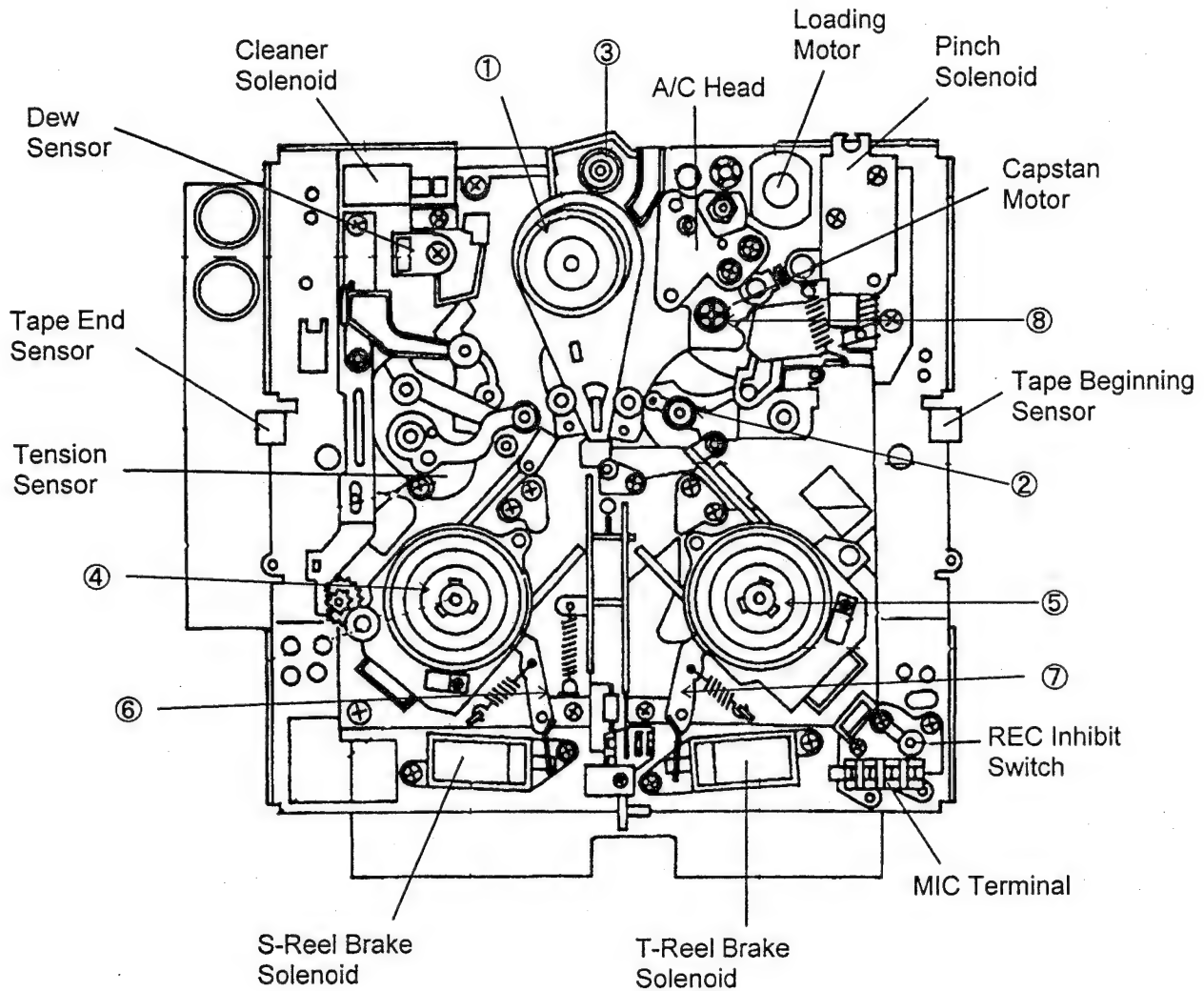
◎: These parts included in Mech. Chassis Unit. Replacing Mech. Chassis Unit is recommended.

■: The lubrication is necessary when replacing the Pinch Arm Unit.

△: This mark means cleaning is necessary.

▲: The lubrication is necessary when replacing the Thrust Screw Unit.

Parts Location

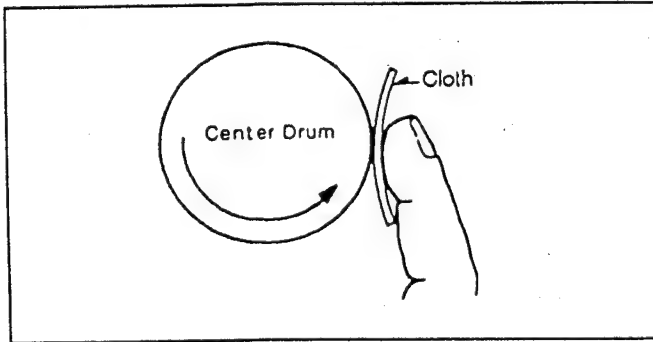


Cleaning Procedures

Make sure the power is OFF before cleaning.
Use ethanol (more than 99%) as cleaning liquid.

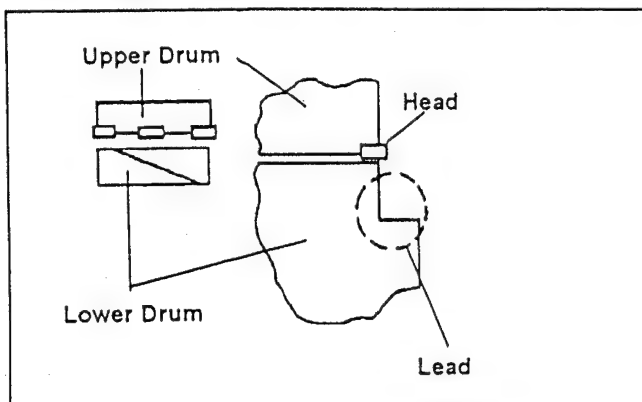
1. Cleaning of Head Chips (Daily)

Clean heads by applying even pressure and rotating cylinder a few times. Never wipe in up and down motion. Never touch a cylinder by naked hand. First wipe with a cloth soaked by cleaning liquid. Then wipe with dry cloth.



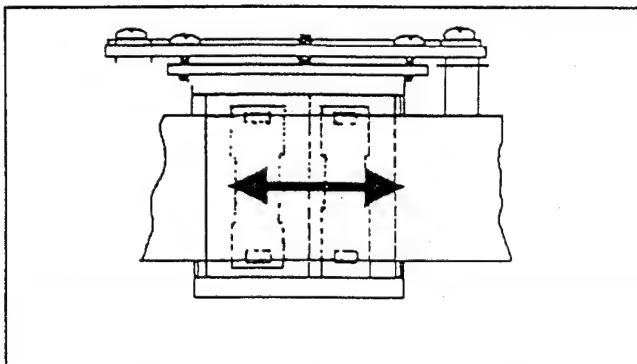
2. Cleaning of Drum Lead (Weekly)

Be careful not to touch a head chip. Clean the drum lead with a pick.



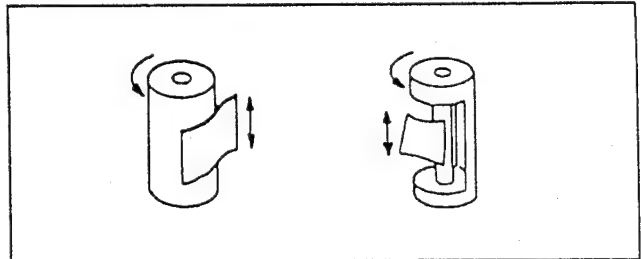
3. Cleaning of A/C Head (Weekly)

Wipe the A/C head with a cloth soaked by cleaning liquid.
Wipe again with a dry cloth.



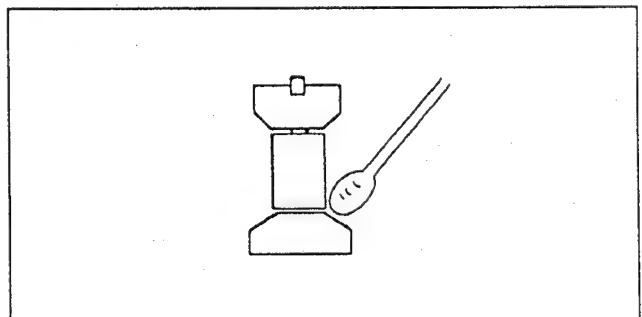
4. Cleaning of Pinch Roller and Capstan (Weekly)

Wipe the Pinch Roller and Capstan with a cloth soaked by cleaning liquid.



5. Cleaning of Post (weekly)

Wind a cloth on a pick. Wipe each post dry with that pick. Wipe again with a dry cloth. For metal posts wipe with cleaning liquid. Then wipe dry again.



Mechanical Parts Replacement and Adjustment Procedures

General

When mechanical parts are replaced, pay attention to the following notes.

1. Turn power off before replacing any part.
2. If any adjustment is required after replacing parts, perform the required adjustments.
3. Use proper fixture tools.
4. Make sure to clean the parts after replacement, Also when the mechanical parts are replaced, follow the replacement procedure.

1. Drum Unit Replacement

(Removal of Mechanism Unit)

Refer to the "Section 2. Disassembly procedures" Item 1 to 6 and remove the mechanism unit and the Servo C.B.A.

(Removal of Cylinder Unit)

1. Remove the T1 Guide and Cleaning Arm Unit (Refer to item 12).
2. Disconnect P3001, P613 on the Servo C.B.A. and hold the top of the Drum unit then remove 3 screws and carefully pull out the Drum unit with care not to scratch the flexible cables.

Note: Be careful when removing the flexible cable from the connector. Refer to the way to remove the connector as shown in Figure M1.

Note: Never touch the cylinder with a finger directly when pulling out the Drum unit.

(Installation)

1. Install the new Drum Unit according to the opposite procedures to removing.
2. After installing T1 Guide, T1 Guide position adjustment should be performed (Refer to item 12-1).

Note: When installing the Drum Unit, the pin on Mech. Chassis should match hole of Drum Unit as shown in Figure M2.

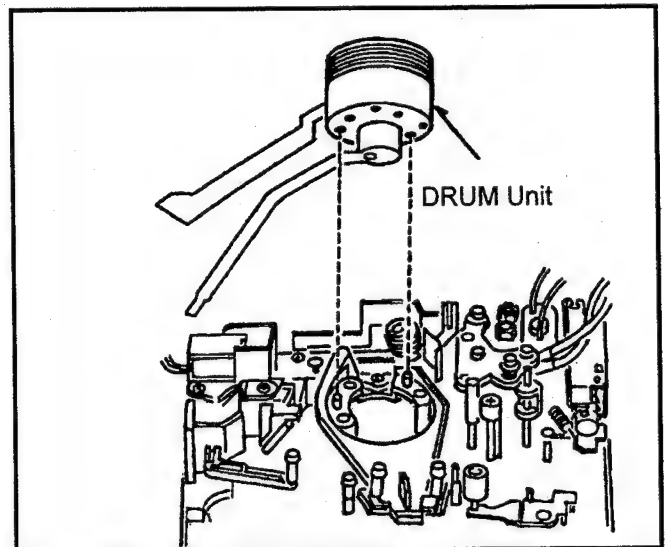


Fig. M2

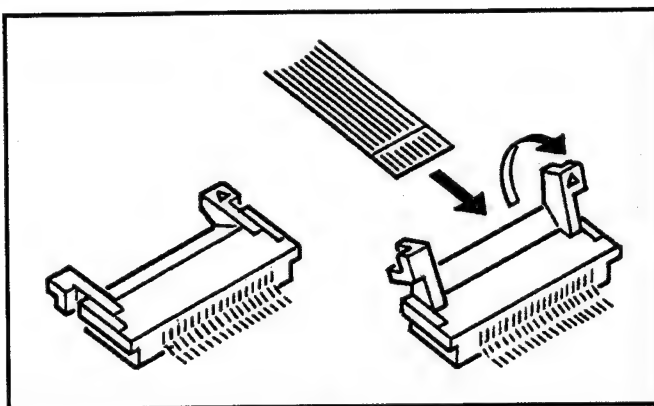


Fig. M1

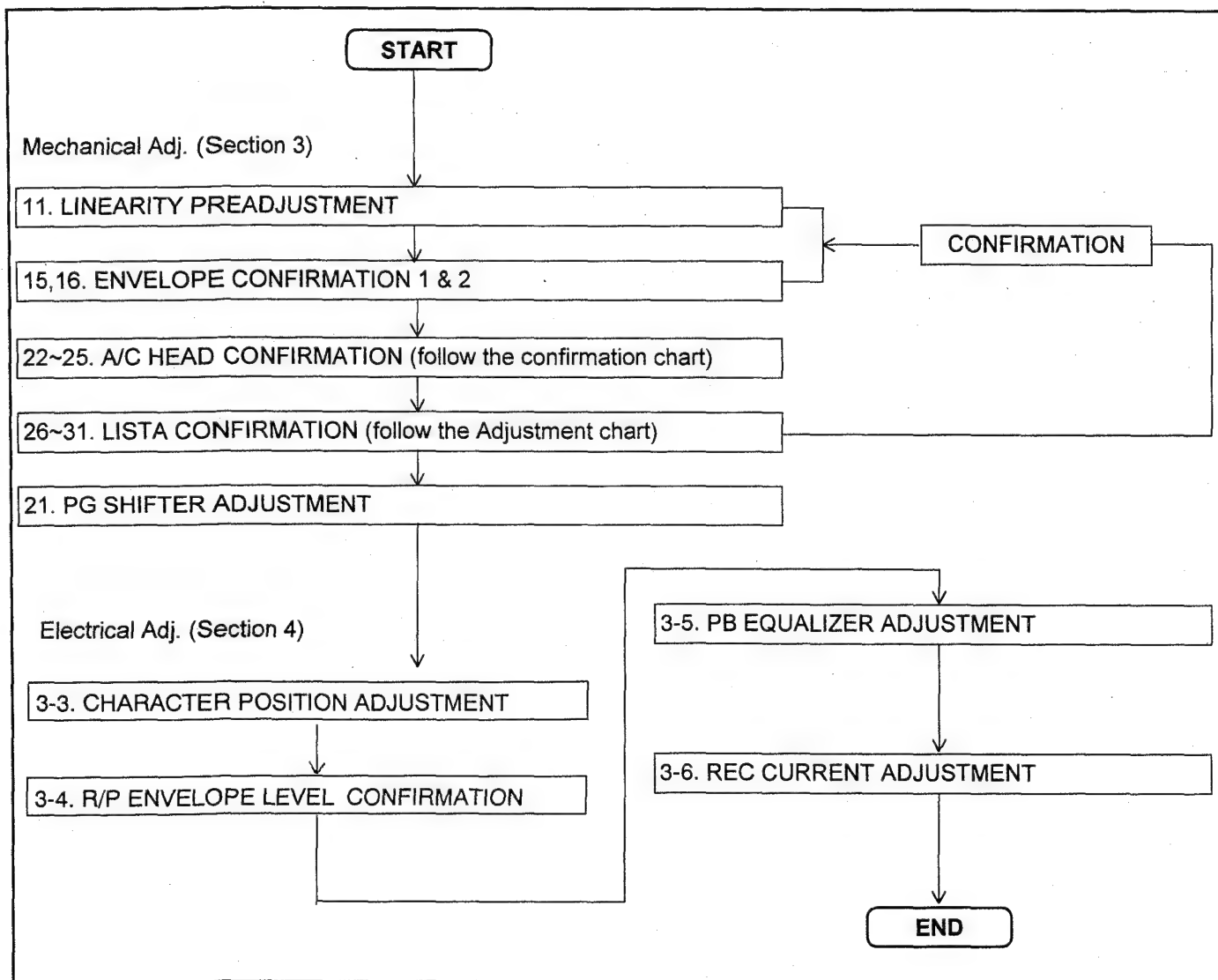
1-1. Adjustment Flow Chart After Drum Unit Replacement

1. After changing the Drum Unit, perform the following steps.

Adjustment Flowchart After Drum Unit & Mech. Chassis Replacement

Note: Confirm the tape path linearity before head replacement.

The number indicated on the chart below is item number on the Service Manual.



2. A/C Head Replacement

2-1. Replacement

※ Required tools:

Nut Driver (5.5m/m)(VFK1150)

Hex Driver (VFK1148)

Hex Wrench (VFK1190)

(Removal)

1. Remove the Cassette Cover, Left Side Panel and the Cassette Up Unit.
2. Loosen the hex. screw (B) and remove the Nut (C). Pick up the Head Height Adjustment Spring and then remove the A/C Head Unit as shown in Figure M5.

Point: Memorize the height of Nut (C) before removing the Nut (C).

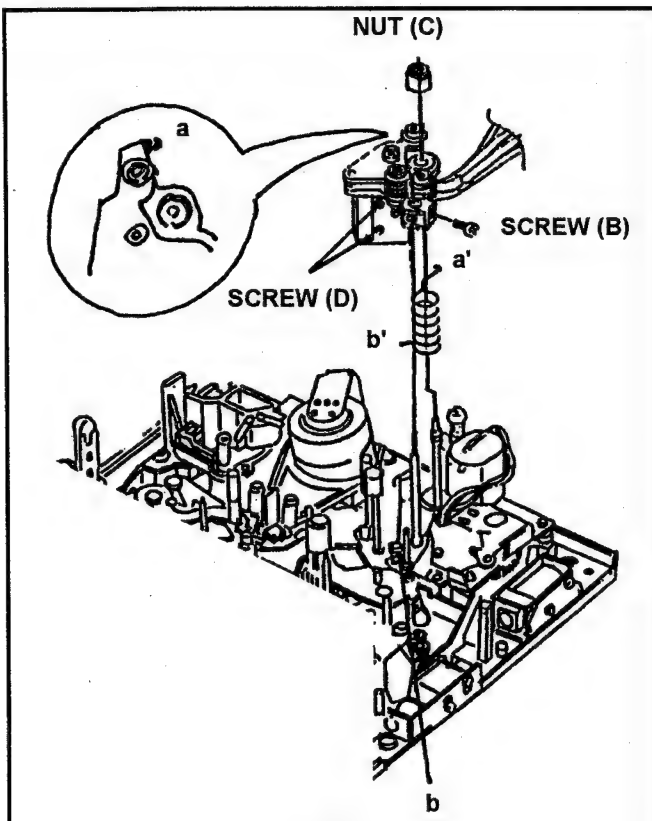


Fig. M5

4. Remove the 2 screws (A). Disconnect the connector P1005 on the Rear Jack C.B.A. and P600 on the Servo C.B.A. and then remove the A/C Head from the A/C Head Plate.

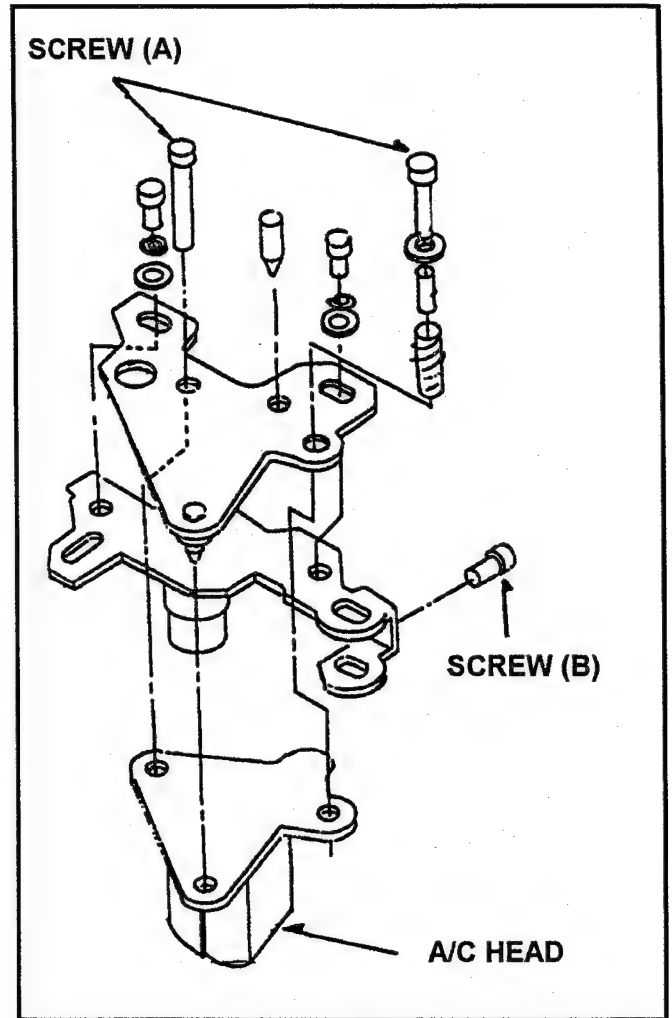


Fig. M6

5. Remove 2 screws (D) to remove the Shield Cover as shown in Figure M5.
6. Unsolder the lead wires one by one. (Don't unsolder all wires at the same time.)

(Installation)

1. Remove the Shield Case from the New A/C Head and solder the lead wires to New A/C Head (Refer to Figure M7).
2. Re-install the shield case to A/C Head.
3. Install the A/C Head to A/C Head Plate and tighten 2 screws (A) so that A/C Head is parallel to A/C Head Plate.
4. Install the A/C Head Unit.
5. Put on the Head Height Adjustment Spring and tighten the Nut (C).
6. Clean the surface of the A/C Head.

Note: After installing, Mechanical and Electrical Adjustments should be performed.
The hex screw (B) is kept loose until the A/C Head Height Adjustment is completed.

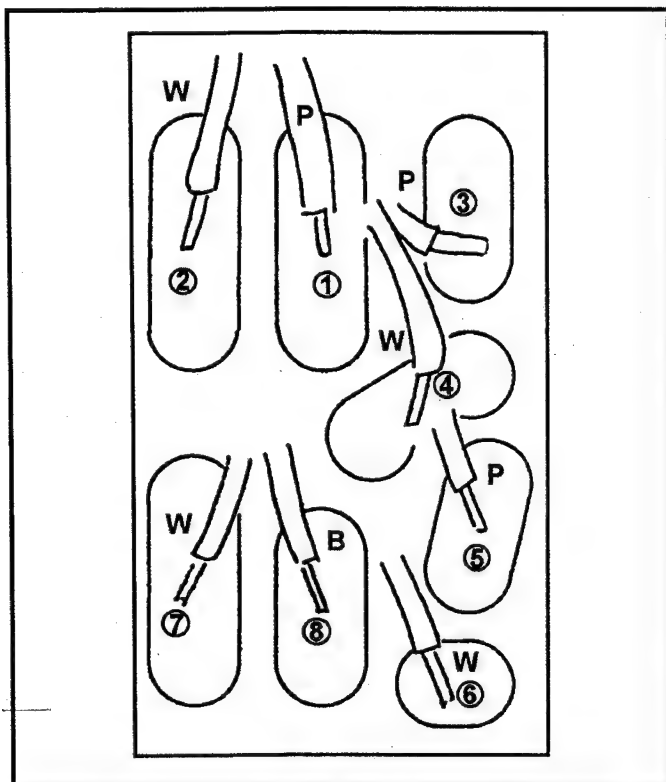
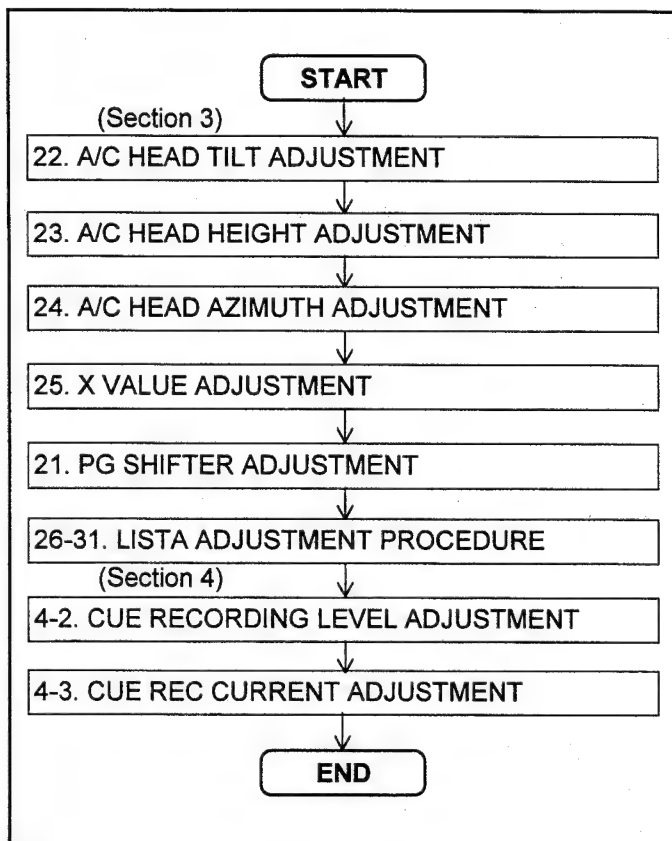


Fig.M7 Connection of A/C Head

A/C Head Side	Cable Color		Connector No.
1	PINK	YELLOW	P1005
2	WHITE		
3	PINK	RED	
4	WHITE		
5	PINK	GREEN	P600
6	WHITE		
7	WHITE	YELLOW	
8	BLACK		

2-2. Adjustment Flowchart After A/C Head Replacement

- After replacing the A/C Head, perform the following steps.



3. Reel Table Replacement

3-1. Supply Reel Rotor Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P614 on the Servo C.B.A..
3. Turn the Emergency Gear until S1 Post moved center loading position and remove the S5 Post (Refer to item 14).
4. Pull up the Arm Return Spring on the Connection Arm Angle Side and disconnect the Connection Arm Angle.
5. Unscrew the 2 screws (C) to remove the Supply Reel Stopper as shown in Figure M8.
6. Push the Reel Table to middle position and unscrew the 2 screws (D) to remove the Supply Reel Rotor Unit as shown in Figure M8.
7. Remove the 2 Cut Washers to remove the Idler Arm Unit.

3-2. Take Up Reel Rotor Unit Replacement

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P615 on the Servo C.B.A.
3. Unscrews the 2 screws (E) ,and then remove the Take Up Reel Stopper.
4. Push the Reel Table to middle position and unscrew the 2 screws (F) to remove the Take Up Reel Rotor Unit as shown in Figure M8.

CAUTION: Don't touch FG portion with the magnetized screw driver.

(Installation for both unit)

1. Install the new Reel Rotor Unit according to the opposite procedures to removing.
2. Adjust the "4. Reel Torque Adj." and confirm "2. Main Brake Torque" in the Section 3.

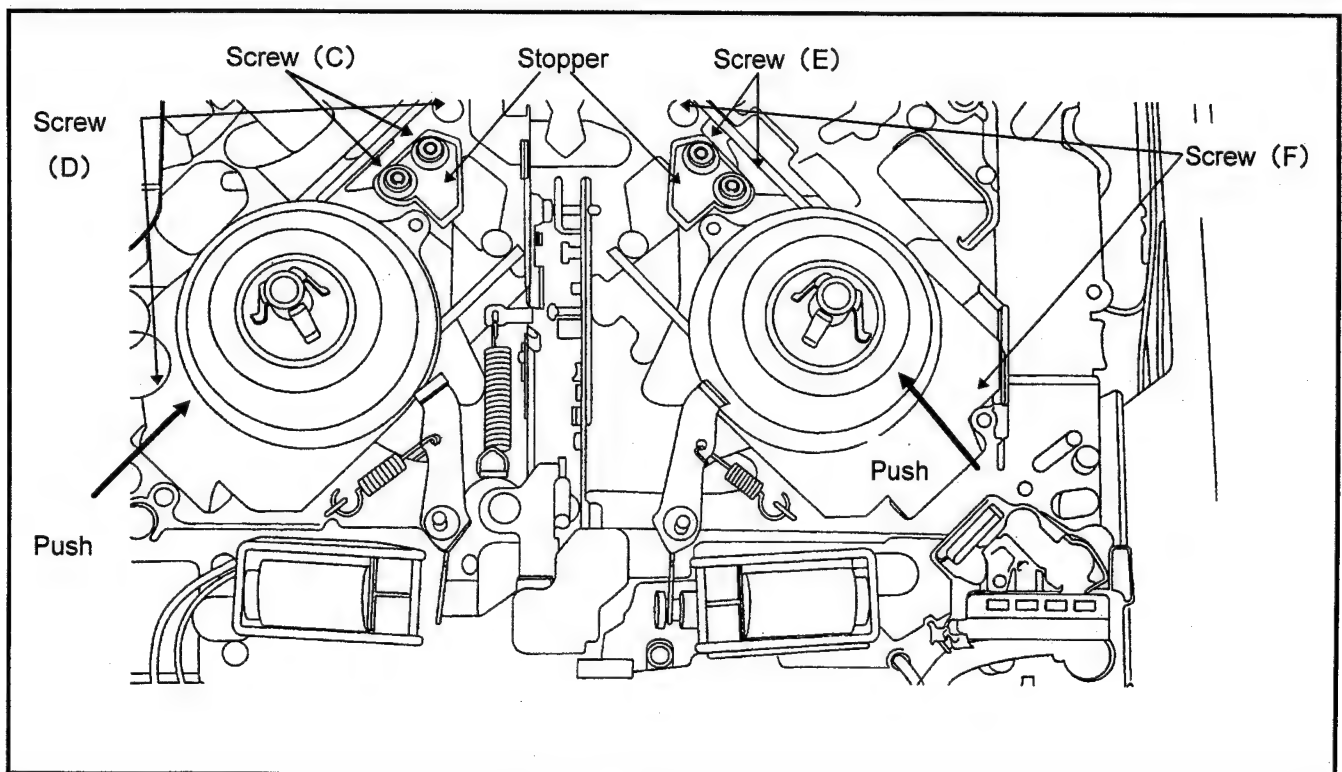


Fig. M8

4. Pinch Solenoid Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P610 on the Servo C.B.A.
3. Unscrew the 2 screws (A) and remove the Pinch Solenoid Unit as shown in Figure M9.
4. Unscrew the 2 screws (B) and remove the Pinch Solenoid Angle.
5. Unscrew the 2 screws (C) and remove the Pinch Solenoid from the Pinch Solenoid Base.

(Installation)

1. Install the new Pinch Solenoid according to the opposite procedures to removing.
2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." in the Section 3).

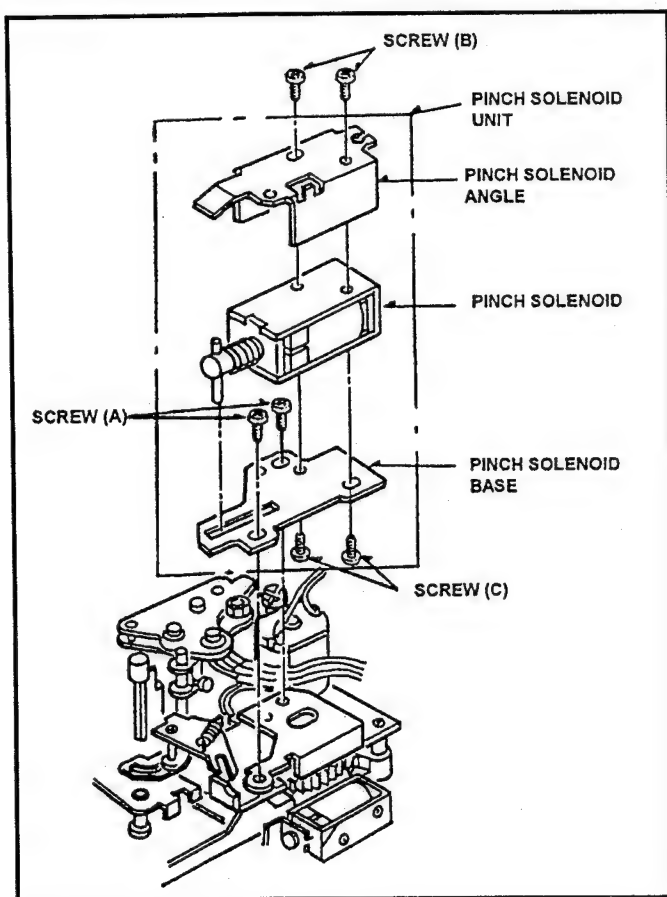


Fig. M9

5. Pinch Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Remove the Pinch Solenoid Unit (Refer to item 4).
3. Remove the cut washer (A) to remove the Pinch Solenoid Lever as shown in Figure M10.
4. Remove the cut washer (B) to remove the Pinch Arm Unit as shown in Figure M10.

(Installation)

1. Install the new Pinch Arm Unit according to the opposite procedures to removing.
2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." in the Section 3).

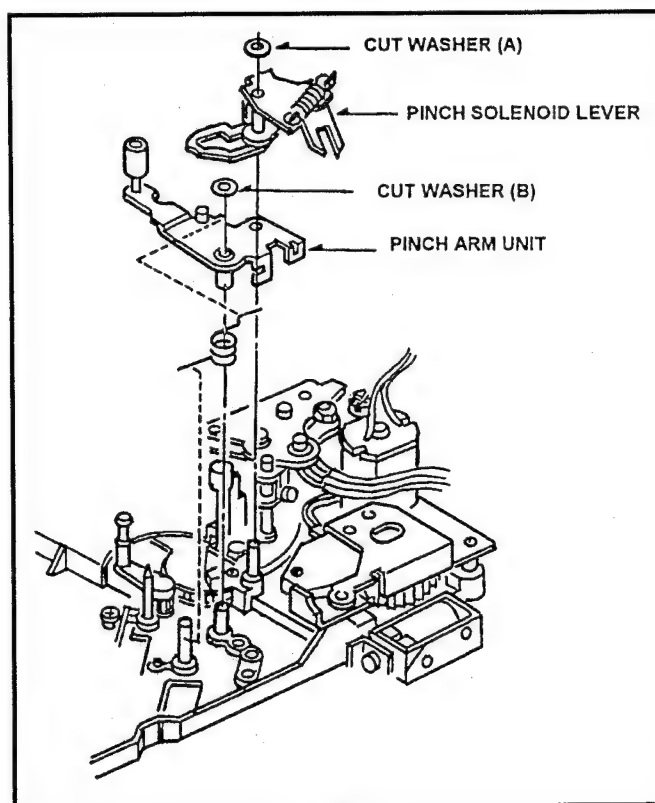


Fig. M10

6. Loading Motor Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P611 on the Servo C.B.A.
3. Remove the Pinch Solenoid and Pinch Solenoid Lever. (Refer to item 4 & 5).
4. Unscrew the screw (B) to remove the Emergency Shaft as shown in Figure M11.
5. Unscrew the 2 screws (C) to remove the Loading Motor Neutral Unit as shown in Figure M11.
6. Unscrew the 2 screws (D) to remove the Loading Motor Unit as shown in Figure M11.

(Installation)

1. Install the new Loading Motor Unit according to the opposite procedures to removing.
2. Install the Pinch Solenoid Unit. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." in the Section 3).

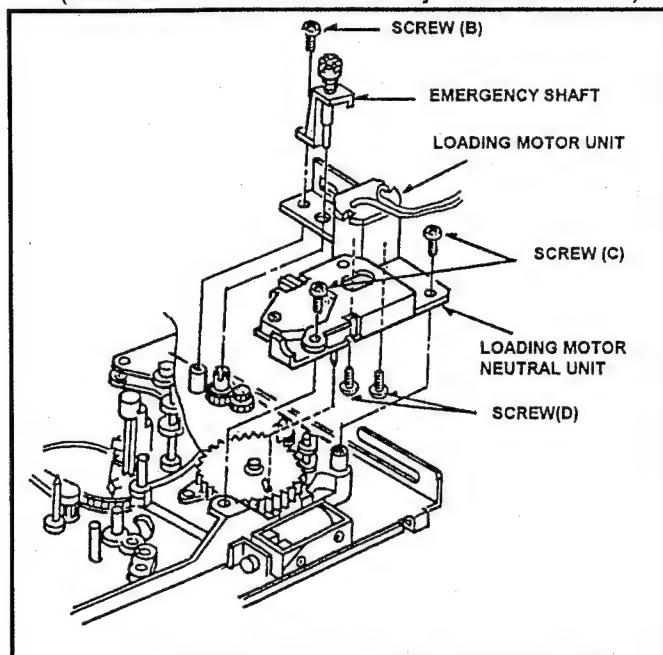


Fig. M11

7. Mode Select Switch Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P612 on the Servo C.B.A.
3. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit (Refer to item 4 to 6).
4. Remove the screw (D) to remove the Mode Select Switch Unit from Loading Motor Neutral Unit as shown in Figure M12.

(Installation)

1. Install the New Mode Select Switch Unit according to the opposite procedures to removing.

Note: Confirm that the pin of Mode Switch Unit matches groove of Main Cam Gear.

2. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." in the Section 3).

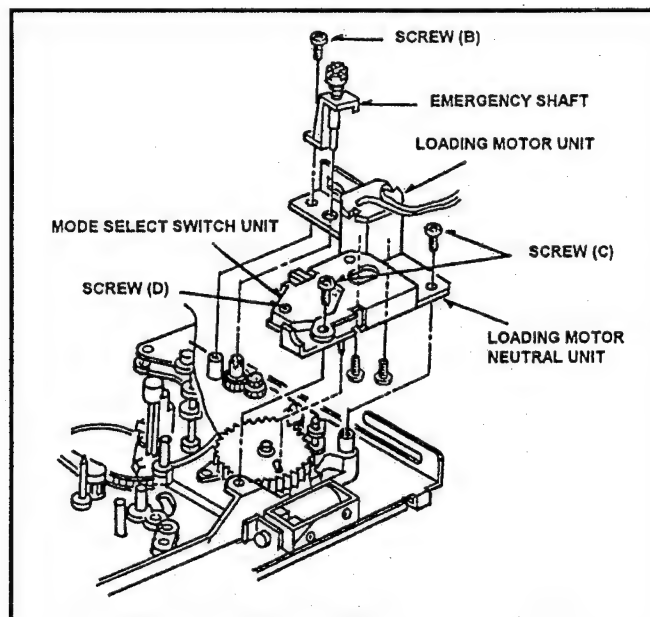


Fig. M12

8. Main Cam Gear Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit (Refer to item 4 to 6).
3. Remove the Main Cam Gear as shown in Figure M13.

(Installation)

1. Install the Main Cam Gear so that the pin of Main Cam Arm Unit (※) matches the groove position of Main Cam Gear as shown in Figure M13.
2. Follow the opposite procedures to removing.
3. After installing, Pinch Solenoid Position Adjustment is required. (Refer to "1. Pinch Solenoid Adj." in the Section 3).

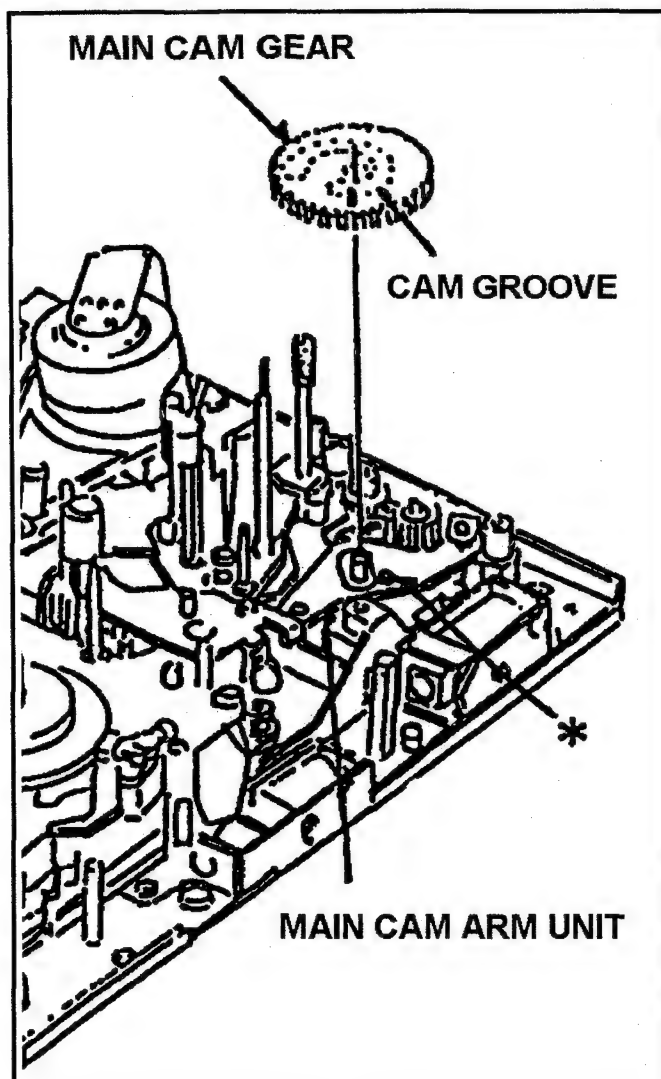


Fig. M13

9. Brake Arm & Brake Solenoid Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connectors P605, P608 on Servo C.B.A..
3. Unscrew the 2 screws (A) to remove the Supply Brake Solenoid and unscrew the screw (B) to remove the Solenoid base as shown in Figure M14.
4. Remove the cut washer (C) to remove the Supply Brake Arm.
5. Unscrew the 2 screws (D) to remove the Take Up Brake Solenoid and unscrew the screw (E) to remove the Solenoid base as shown in Figure M14.
6. Remove the cut washer (F) to remove the Take Up Arm.

(Installation)

1. Install the new cassette Brake Base Unit according to the opposite procedures to removing.

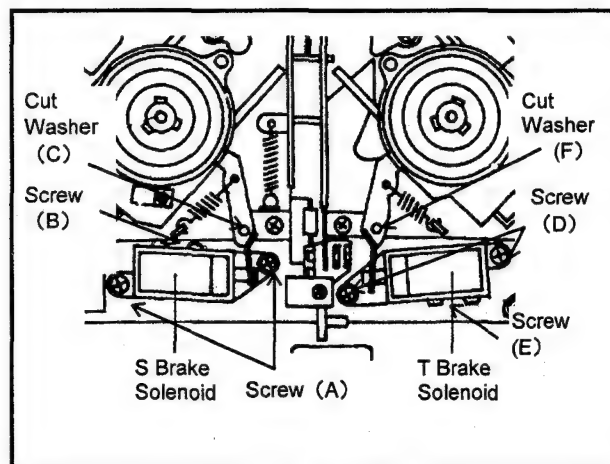


Fig. M14

2. After installing, the Brake Solenoid Position Adjustment required (Refer to item 16 in this section).

10. MIC Base Unit Replacement

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P607 on the Servo C.B.A.
3. Unscrew the 2 screws (A) and remove the MIC Base Unit as shown in Figure M15.

(Installation)

1. Install the new MIC Base Unit according to the opposite procedures to removing.
2. Confirm that the M cassette touches to MIC Base Unit properly.

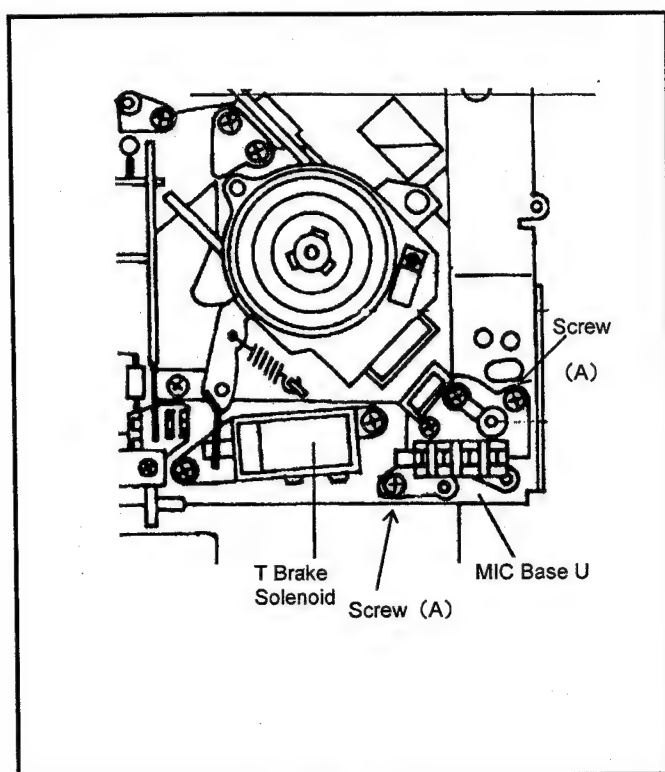


Fig. M15

11. S1 & T1 Post Loading Arm Unit Replacement and Adjustment

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Remove the Mechanism Chassis Unit and the Drum Unit.
3. Remove the T1 Guide and the Cleaning Arm Unit.
4. Turn the Emergency Gear until middle loading position and unscrew the screw (D), (E) as shown in Figure M16.
5. Remove the S5 Stopper Base and the Tension Arm Unit. (Refer to item 14 & 15).
6. Unscrew the screw (A) and remove S1 Post from the Loading Rail as shown in Figure M16.
7. Remove the Cut Washer (B) and remove the S1 Loading Arm Unit as shown in Figure M16.
8. Unscrew the screws (C), and remove the T1 Post from Loading Rail as shown in Figure M16.
9. Remove the T1 Boat Unit from T1 Loading Arm Unit as shown in Figure M16.

(Installation)

1. Install the new S1 or T1 Loading Arm Unit according to the opposite procedures to removing. Then S1 Post Loading Arm Unit Phase Adjustment should be performed.
2. After installing, confirm that the S1 and T1 Post moves smoothly on the Loading Rail.

(Adjustment)

1. Adjust S1 Post Loading Arm Unit so that the hole (A) should match hole (B) as shown in Figure M16.
2. When installing the T1 Boat Unit, the hole (A) should match hole (B) as shown in Figure M17.
3. Tension Arm, Post Height Pre-Adjustment and Linearity Adjustment (Refer to the Section 3) should be performed.

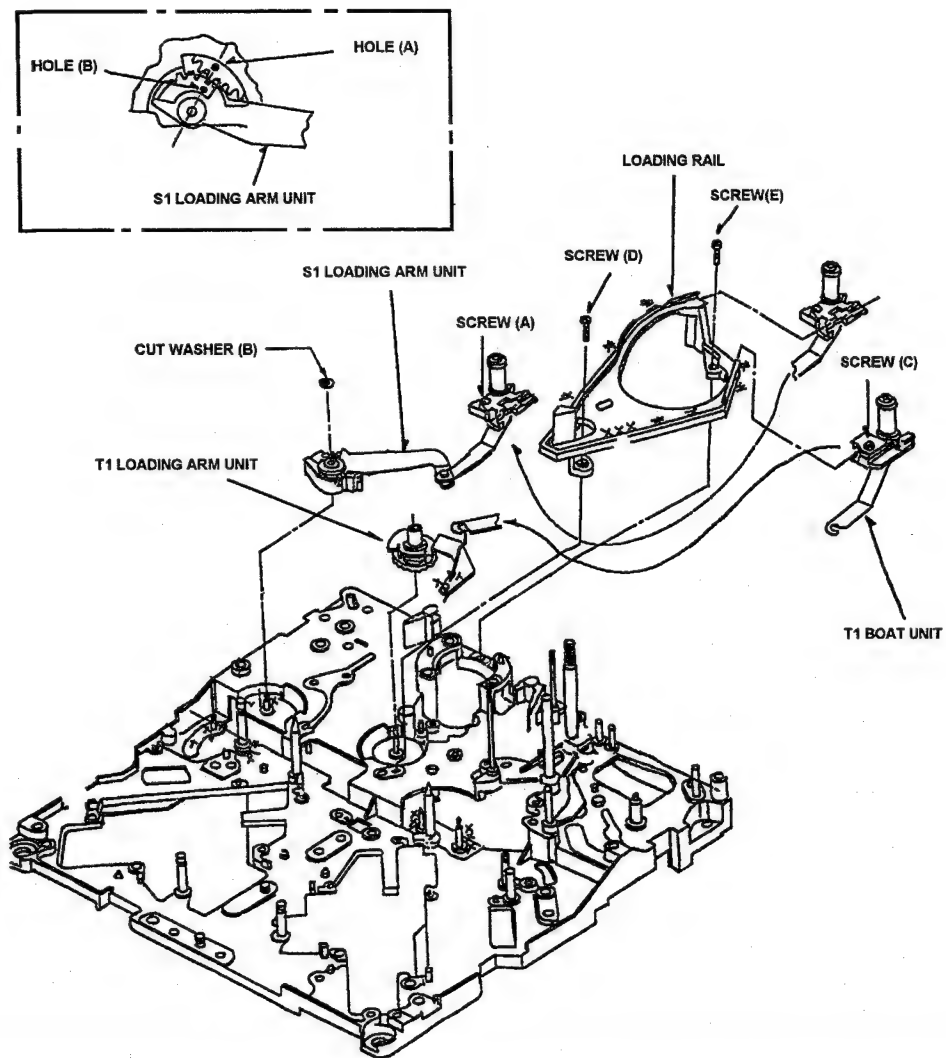


Fig. M16

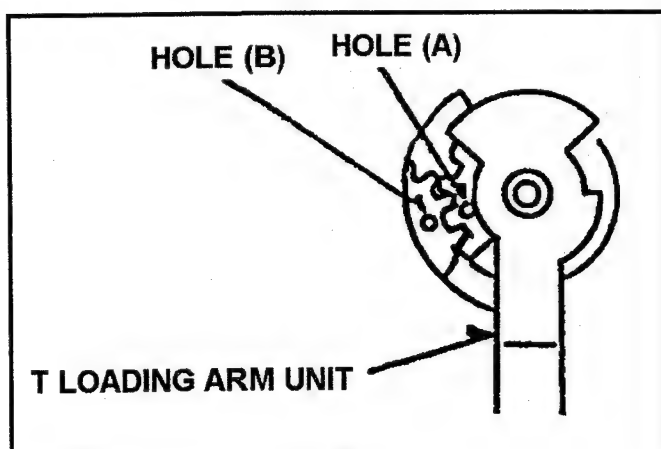


Fig. M17

12. Cleaning Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover and Left Side Panel.
2. Unscrew the 2 screws (A) to remove the T1 Guide.
3. Pick up the tip portion (B) of Cleaning Arm Unit and remove the spring from Cleaner Arm Unit. Then remove the Cleaning Arm Unit as shown in Figure M18.

(Installation)

1. Install the cleaning Arm Unit, then hang the spring on Cleaning Arm Unit.
2. Install the T1 Guide and tighten 2 screws (A).
3. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated when the cylinder is rotated by hand.
4. T1 Guide position adjustment should be performed.

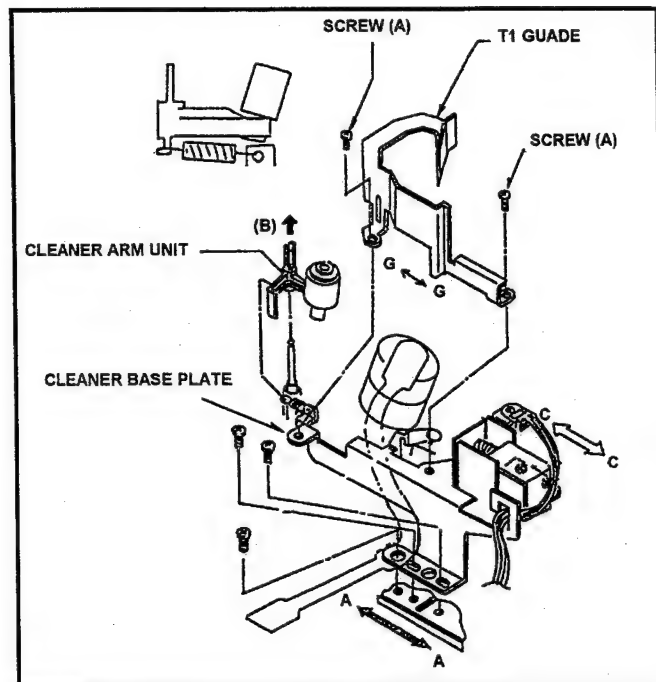


Fig. M18

12-1. T1 Guide Position Adjustment

Place the unit in Loading completion mode.

< How to Make the No Tape Loading >

- Set a black tube to TAPE LED sensor.
- Turn on the power and then the VTR begins loading without tape. And unplug DC input to the unit.

1. Observe the clearance (B) between T1 Guide and T1 post as shown in Figure M19. And make sure that it is within 0.2 to 0.5mm.
2. If not, loosen the 2 screws (A) and adjust the position of T1 Guide by moving to arrow direction (G ⇄ G) so that the clearance (B) is within specification. And tighten the 2 screws (A).

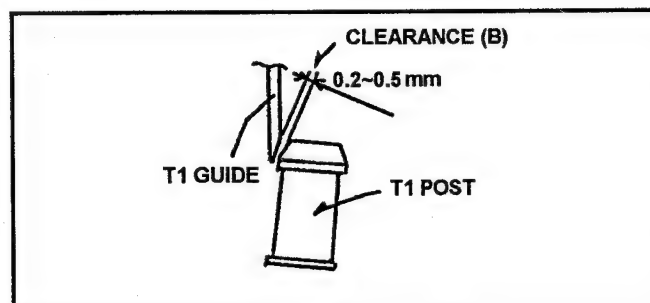


Fig. M19

13.Cleaner Solenoid Replacement and Adjustment

(Removal)

1. Remove the Cassette Cover, both Side Panel, Cassette Up Unit and open VTR MAIN C.B.A.
2. Disconnect the connector P618 on the Servo C.B.A..
3. Unscrew the 2 screws (A) and remove the Cleaner Solenoid Unit as shown in Figure M20.
4. Unscrew the 2 screws (B) and remove the Cleaner Solenoid as shown in Figure M20.

(Installation)

1. Install the new Cleaner Solenoid according to the opposite procedures to removing.
2. After installing, Cleaner Solenoid Position adjustment should be performed as follows.

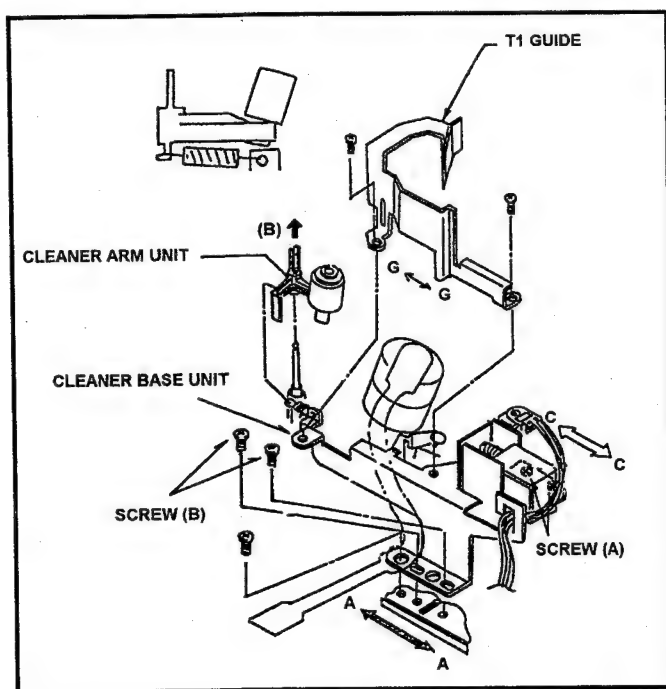


Fig. M20

13-1.Cleaner Solenoid Position Adjustment

※ Required Tools : Eccentric Driver (VFK0357)

1. Press the iron core of Cleaner Solenoid.
2. Observe the clearance (D) between Cleaning Arm Unit and Cleaner Base Plate as shown in Figure M21. And make sure that it is within 0.5 to 0.7mm.
3. If not, loosen the 2 screws (A) and adjust the position of Cleaner Solenoid Unit by moving to arrow direction (C⇌C) with eccentric driver so that the clearance (D) is within specification. And tighten the 2 screws (A).
4. After adjustment, confirm as follows.
5. Press the iron core of Cleaner Solenoid to release, and then return the Cleaning Roller to original position.
6. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated when the cylinder is rotated by hand.

Note: If removing the Cleaner Base Plate, Cleaner roller Position Adjustment should be performed.

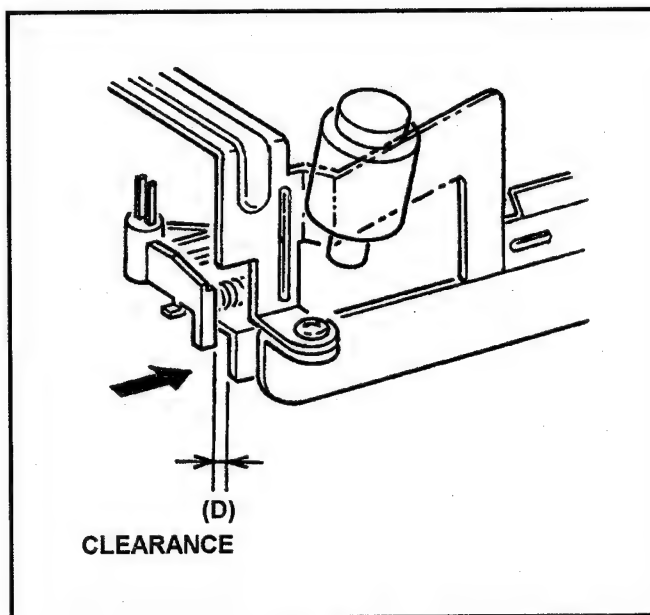


Fig. M21

13-2. Cleaner Roller Position Adjustment

※ Required Tools : Eccentric Driver (VFK0357)

1. Observe the clearance (A) between Cleaner Roller and Cylinder Unit as shown in Figure M22. And make sure that it is within 1.0 to 1.2mm.
2. If not, loosen the 2 screws (B) and adjust the position of Cleaner Base Plate by moving to arrow direction (A ⇄ A) with the Eccentric Driver so that the clearance (A) is within specification. And tighten the 2 screws (B).

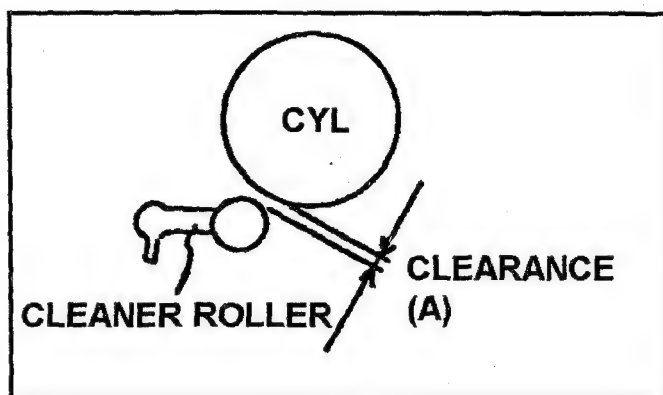


Fig. M22

14. S5 Post Base Unit Replacement

(Removal)

1. Remove the Cassette Up Unit
2. Unscrew the screw (A) and remove the S5 Post Base Unit as shown in Figure M23.

(Installation)

1. Install the S5 post Base Unit according to the opposite procedures to removing.
2. After installing, Post Height Pre-adjustment and Linearity Adjustment (Refer to the Section 3.) should be performed.

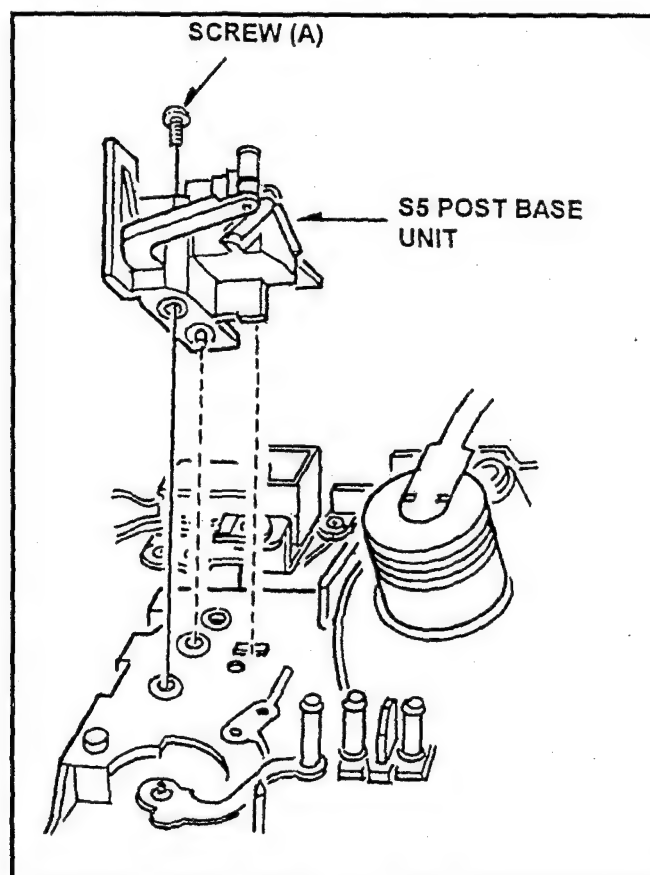


Fig. M23

15. Tension Arm Unit Replacement

(Removal)

1. Remove the Cassette Cover and Left Side Panel.
2. Remove the Cassette Up Unit.
3. Remove the Cut Washer (A) and pick up the Tension Reg. Spring Then remove the Tension Arm Unit as shown in Figure M24.

(Installation)

1. Install the new Tension Arm Unit according to the opposite procedures to removing.
2. After installing, Tension Arm Adjustment should be performed as follows.

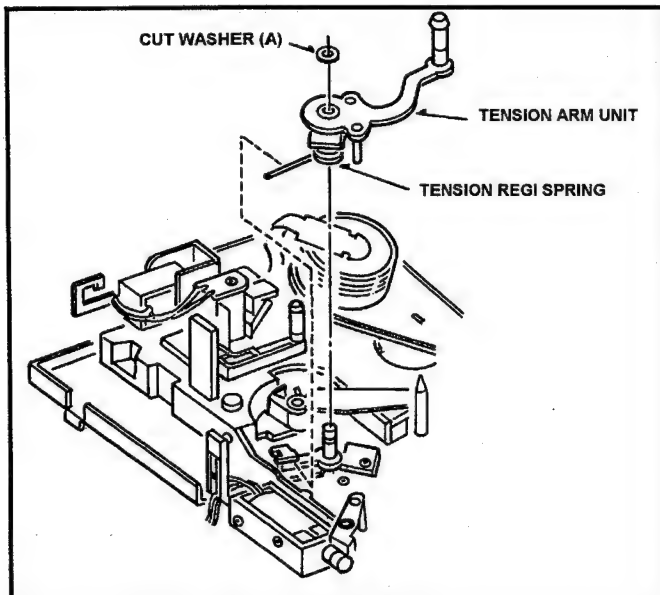
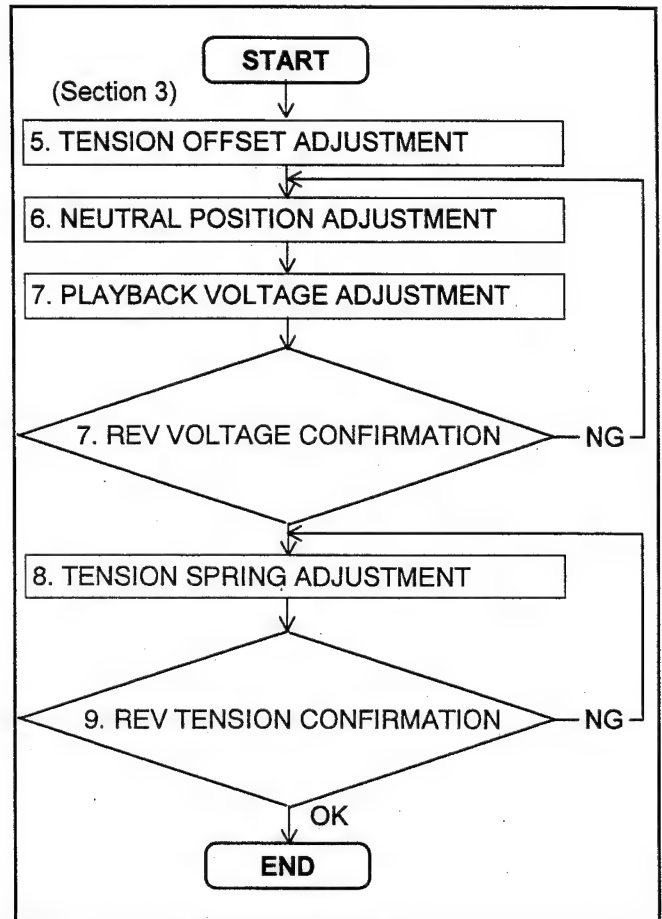


Fig. M24

Tension Arm Adjustment Flowchart



16.Brake Solenoid Position Adjustment.

1. Press the iron core of the Brake Solenoid.
2. Loosen the 2 screws (A) for S-Brake Solenoid and adjust position of Solenoid unit by moving to slightly left or right so that the clearance (A) is within 0.8 ± 0.2 mm.

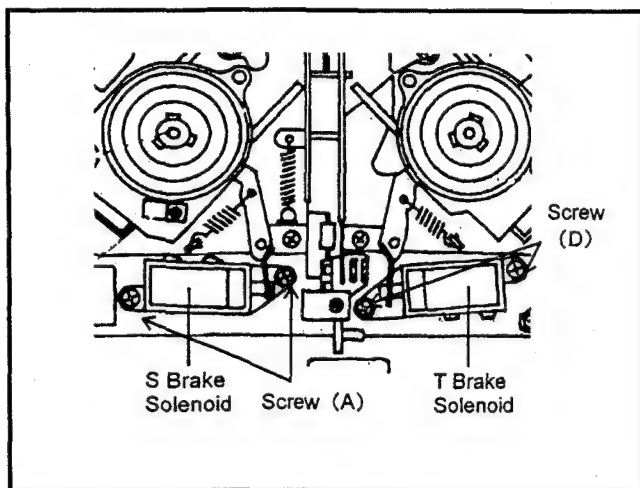


Fig. M25

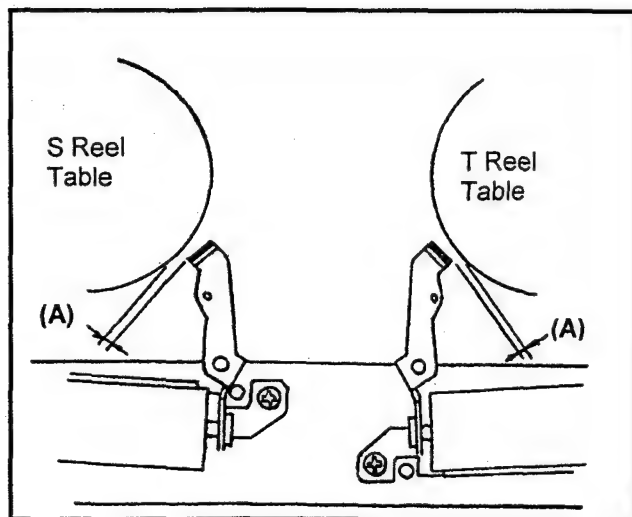


Fig. M26

17.Thrust Adjustment Screw Replacement

1. Remove the Thrust Adjustment Screw.
2. Enforce cleaning of point department of capstan shaft with an applicator.
3. Put the oil (VFK0906) on a new Thrust Adjustment Screw, and install the upper end of the Capstan Housing.
4. Turn the Thrust Adjustment Screw slowly to clockwise until the Capstan Rotor just starts turning (separate from the Capstan Rotor).
5. Turn the Thrust Adjustment Screw another an angle of 270° from 180° (about 225°) clockwise as shown in the Fig. M8.
6. Put the glue (Ex: Three Bond 1401B) on the Thrust Adjustment Screw.
7. Confirm whether the Oil Seal doesn't come in contact with the Capstan Housing.

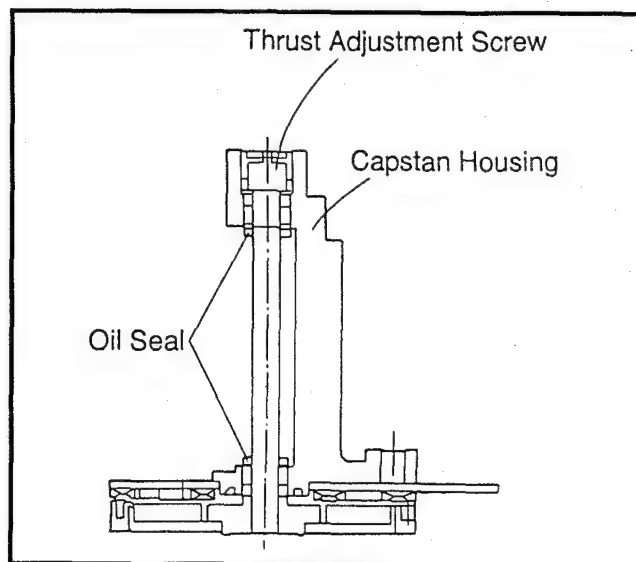


Fig. M27

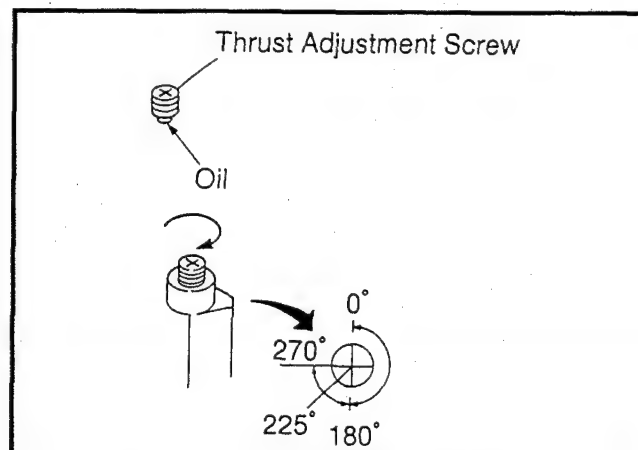


Fig. M28



SECTION 3

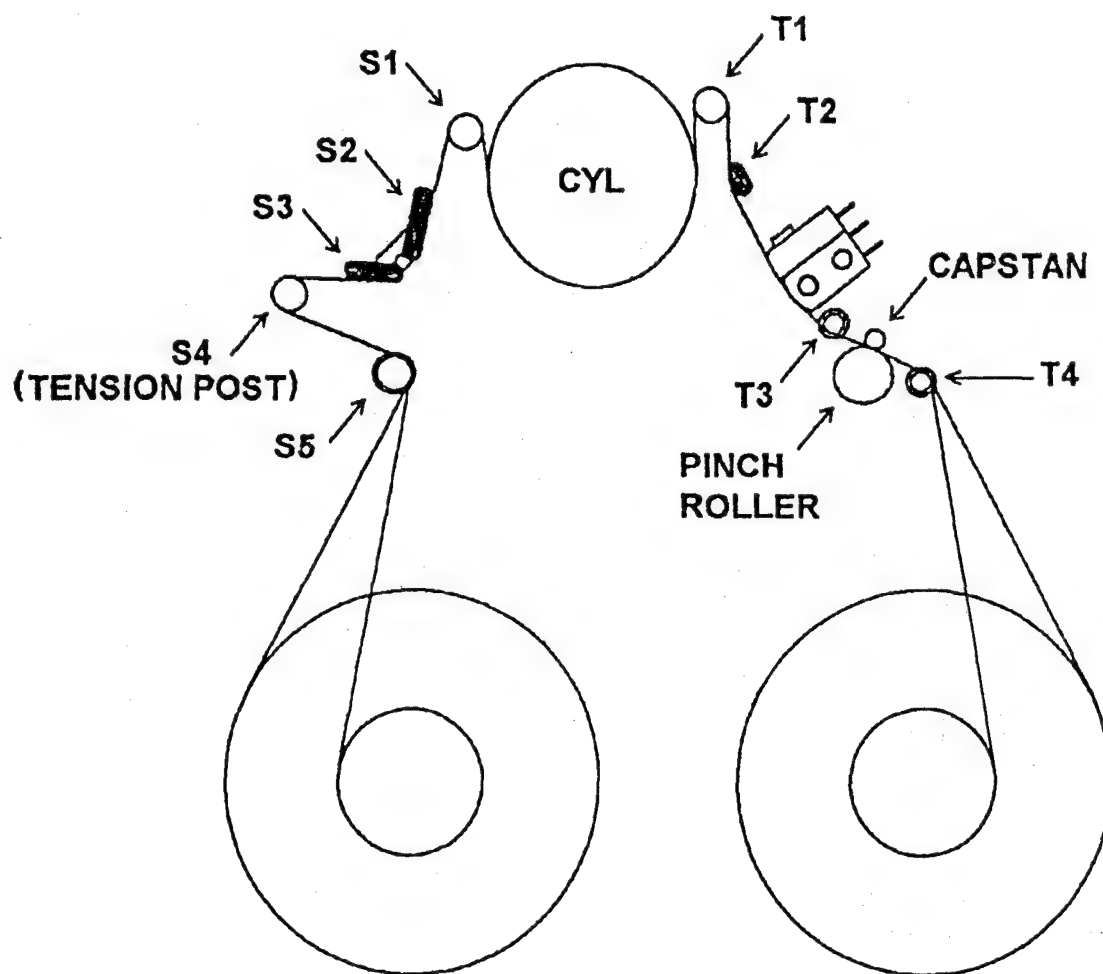
MECHANICAL ADJUSTMENT

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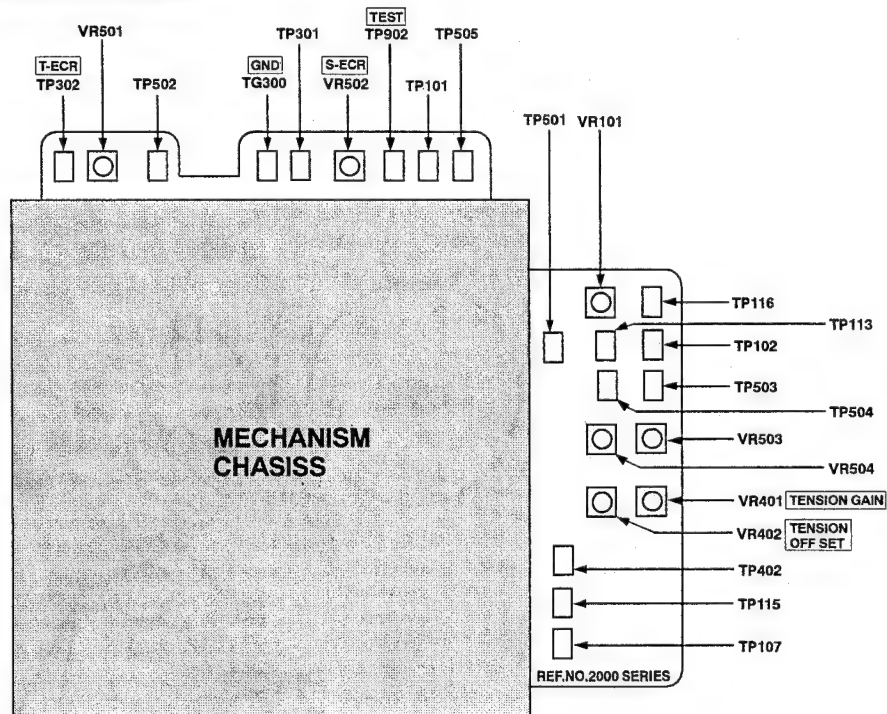
Mechanical /Servo Adjustment

Name of tape transportation

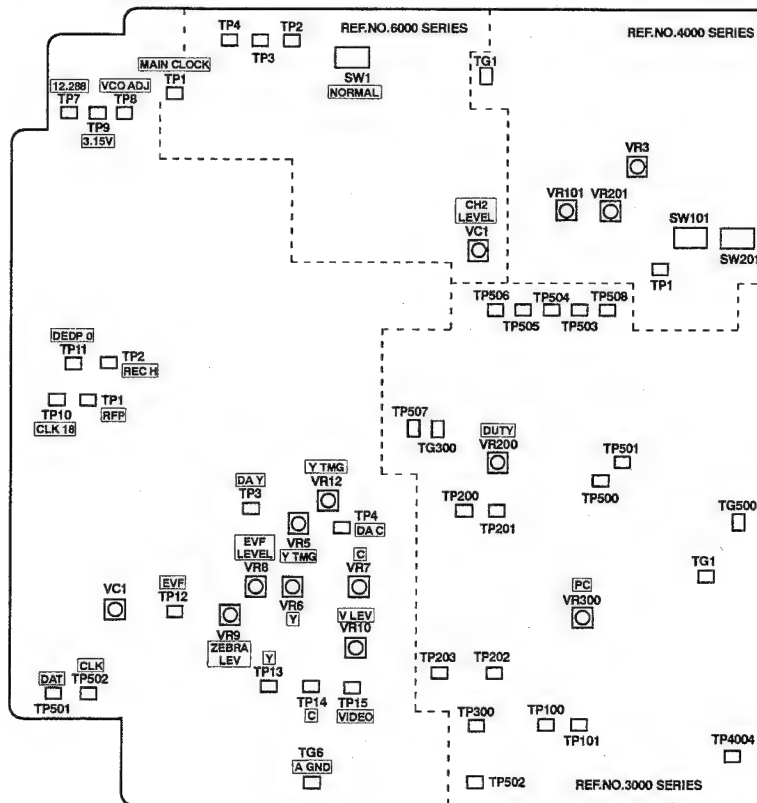


TP & VR location

SERVO C.B.A.



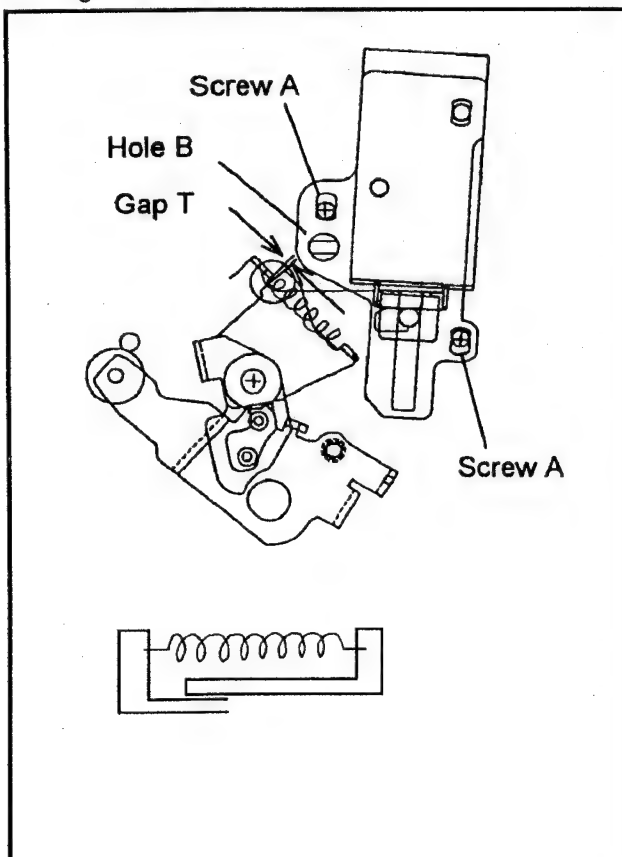
VIDEO MAIN C.B.A.



1. Pinch Solenoid Adjustment

SPEC.	T = 0.3mm
TEST	Gap T
ADJUST	Screw A, Hole B
MODE	Eject(Power OFF)
TOOL	VFK0357

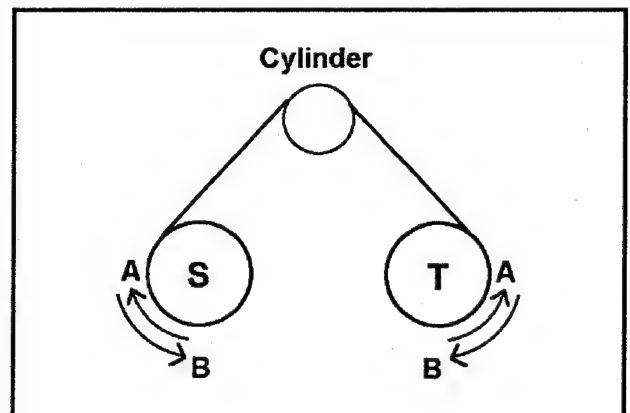
1. Confirm the power off.
2. Push the pinch roller by hand to be close to capstan.
3. Push the pinch solenoid by hand so that the pinch roller contacts capstan.
4. Loosen the **two screws A**.
5. Adjust the **hole B** so that **gap T** is within specification.
6. Tighten the **two screws A**.



2. Main Brake Torque Confirmation

SPEC.	Direction A : more than 100g Direction B : more than 20g
TEST	S Reel, T Reel
MODE	Eject(Power OFF)
TOOL	VFK71, VFK1191, VFK1152

1. Confirm the power off.
2. Remove the Cassette Up Unit.
3. Install the adapter(VFK1152) to the torque gauge (VFK71).
4. Put the torque gauge on **S Reel**.
5. Turn the torque gauge to **direction A** until **S Reel** slips against brake.
6. Confirm the torque is within specification.
7. Put the torque gauge on **T Reel**.
8. Turn the torque gauge to **direction A** until **T Reel** slips against brake.
9. Confirm the torque is within specification.
10. Install the adapter(VFK1152) to the torque gauge (VFK1191).
11. Put the torque gauge on **S Reel**.
12. Turn the torque gauge to **direction B** until **S Reel** slips against brake.
13. Confirm the torque is within specification.
14. Put the torque gauge on **T Reel**.
15. Turn the torque gauge to **direction B** until **T Reel** slips against brake.
16. Confirm the torque is within specification.



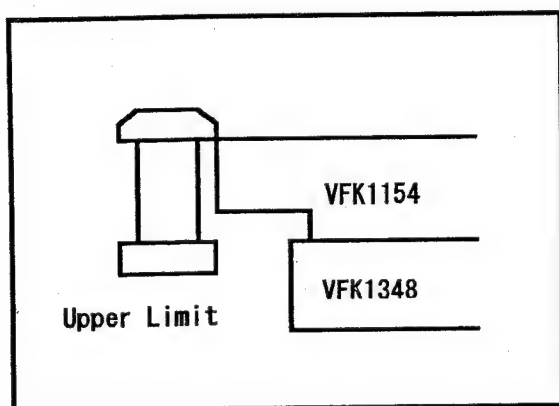
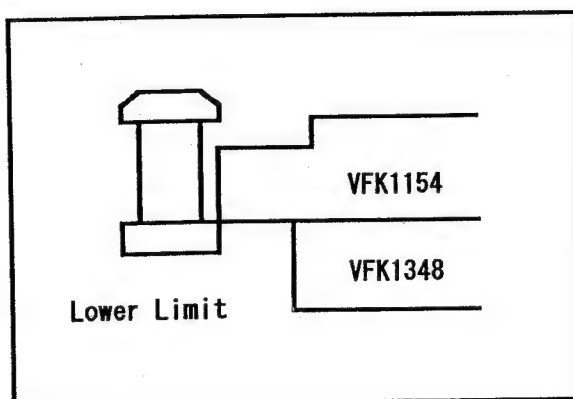
3. Post Height Preadjustment

Mode	EJECT (Power OFF)
Tool	VFK1348, VFK1154

1. Turn the power OFF and then set the tube* to cover the sensor LED and place the unit in no tape loading mode.
2. Install the Mech. Neutral Plate and adjust each post height as shown in figure.

Note. Lower* : Turn **S4** and **S5** posts 1 round more counterclockwise from lower limit position.

Post	Limit	Post Driver
S4	Lower*	VFK1149
S5	Lower*	VFK1149
T3	Lower	VFK1151 (2.5 mm Nut Driver)
T4	Lower	VFK1151 (2.5 mm Nut Driver)



4. Reel Torque Adjustment

BOARD	Servo
SPEC.	20±2mV
TEST	TP301(S), TP302(T), TG300 (GND)
ADJUST	VR501(T), VR502(S)
MODE	PLAY
M.EQ	Digital Volt Meter

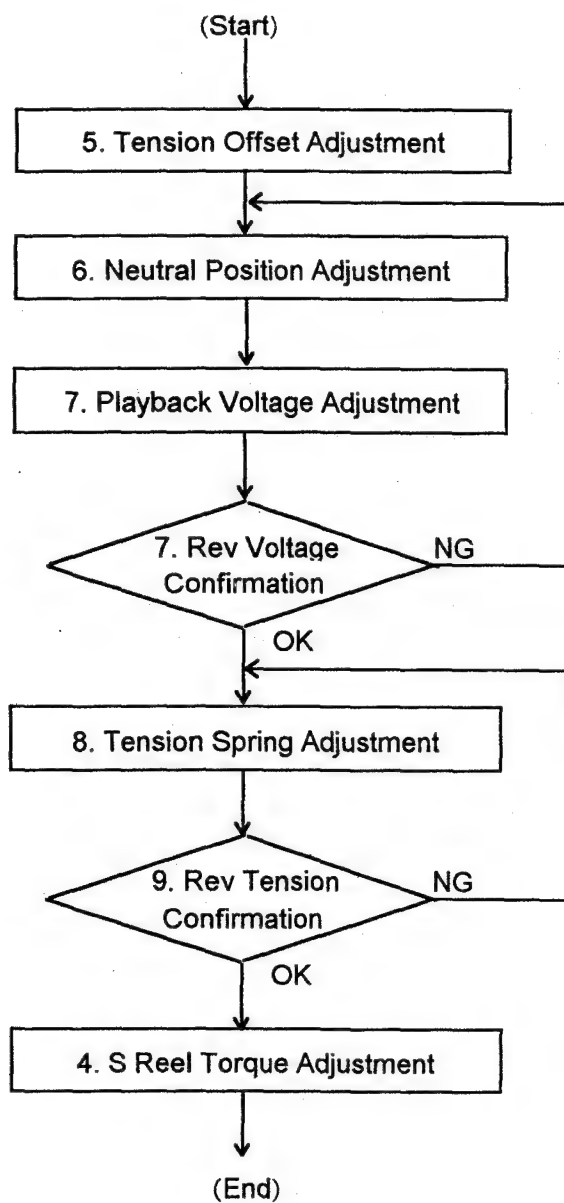
The S Reel Torque adjustment should be performed after completing the "Tension Adjustment."

1. Confirm the power off and make a short-circuit between **TP116** and **TP505**.
2. Turn the power ON and then set the tube* to cover the sensor LED and place the unit in no tape loading mode.
3. Hold the S-Reel by hand and press the **PLAY** key.
4. Adjust the **VR502** so that the **TP301**(for S Reel) is within specification.
5. Hold the T-Reel by hand and press the **PLAY** key.
6. Adjust the **VR501** so that the **TP302**(for T Reel) is within specification.
7. Make an open-circuit between **TP116** and **TP505**.

Note.

1. Make a tube* by yourself.

Tension Adjustment Flowchart



5. Tension Offset Adjustment

BOARD	Servo
SPEC.	2.5±0.05V
TEST	TP402
ADJUST	VR402
MODE	EJECT
M.EQ	Digital Volt Meter

1. Adjust the **VR402** so that the DC voltage at **TP402** is within specification.

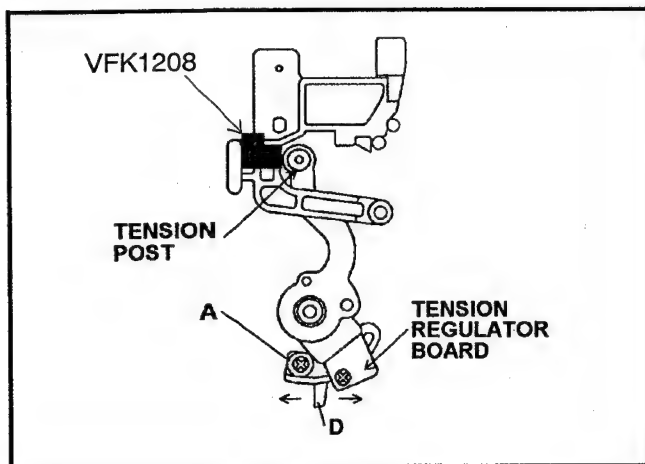
6. Neutral Position Adjustment

BOARD	Servo
SPEC.	$2.5 \pm 0.1V$
TEST	TP402
ADJUST	Sensor
MODE	STOP
TOOL	VFK1208
M.EQ	Digital Volt Meter

1. Remove the cassette up unit.
2. Set the tube* to cover the sensor LED and place the unit in on tape loading mode.
3. Install the black spacer with hole (VFK1208) as shown in figure. Adjust the sensor position so that the **TP402** voltage is within specification. To adjust, loosen the **screw A** and adjust the **lever D**.

Note.

1. Make a tube* by yourself.



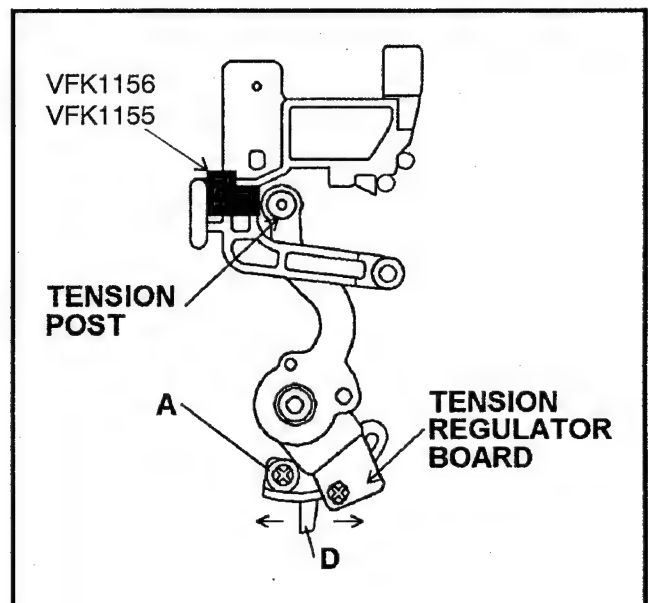
7. Play & Rev Tension Adjustment

BOARD	Servo
SPEC.	(PLAY) $3.8 \pm 0.05V$ (REV) $1.2 \pm 0.3V$
TEST	TP402
ADJUST	VR401
MODE	STOP
TOOL	VFK1156, VFK1155
M.EQ	Digital Volt Meter

1. Set the tube* to cover the sensor LED and place the unit in no tape loading mode.
2. Install the black spacer(VFK1156) as shown in figure. Adjust the **VR401** so that the **TP402** voltage is within specification(PLAY). To adjust, loosen the **screw A** and adjust the **lever D**.
3. Install the gold spacer(VFK1155) instead of the black one. Confirm that the **TP402** voltage is within specification(REV).

Note.

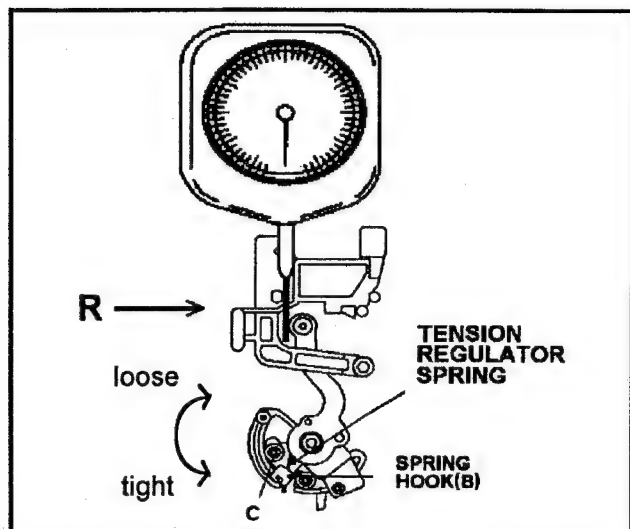
1. Make a tube* by yourself.
2. In case that it is impossible to adjust within specification, readjust from Neutral Position Adjustment.



8. Tension Spring Adjustment

BOARD	Servo
SPEC.	11 ± 1 g
TEST	TP402
ADJUST	Spring hook(B)
MODE	STOP
TOOL	VFK1188
M.EQ	Digital Volt Meter

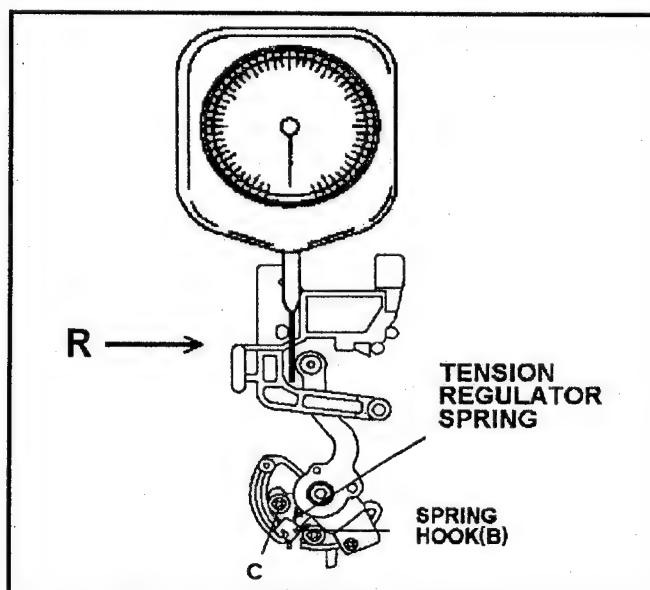
1. Remove the cassette up unit.
2. Set the tube* to cover the sensor LED and place the unit in no tape loading mode.
3. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP402 is 3.8V(PLAY position).
4. Adjust the position of hook(B) so that the indication of gauge is within specification. To adjust hook(B), loosen the screw (C).



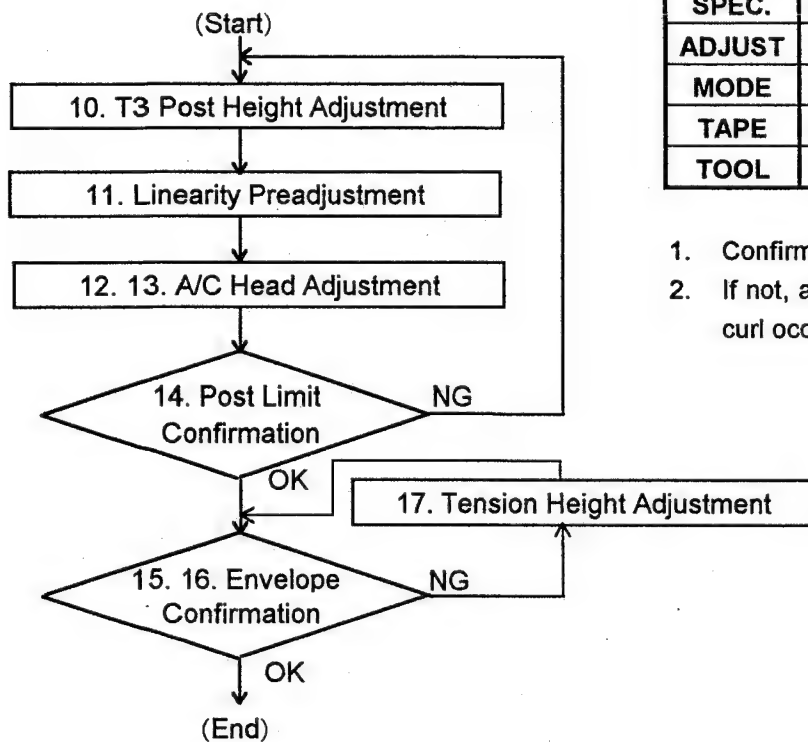
9. REV Tension Confirmation

BOARD	Servo
SPEC.	18 ± 2 g
TEST	TP402
MODE	STOP
TOOL	VFK1188
M.EQ	Digital Volt meter

1. Set the tube* to cover the sensor LED and place the unit in no tape loading mode.
2. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP402 is 1.2V(REV position).
3. Confirm that the indication of gauge is within specification. If not, make the Tension Spring Adjustment again.



Tape Path Adj. Flowchart

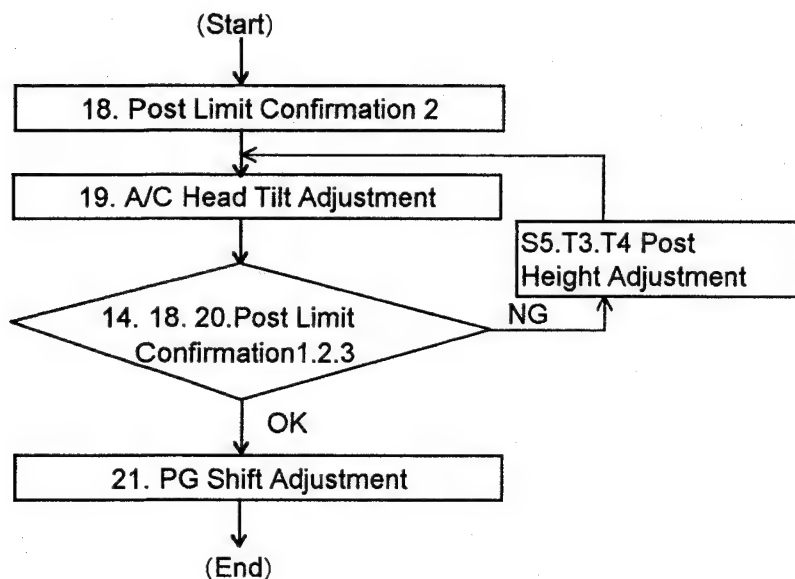


10. T3 Post Height Adjustment

SPEC.	No tape curl
ADJUST	T3 Post Height
MODE	PLAY
TAPE	Blank tape
TOOL	VFK1151

1. Confirm that the tape has no curl at T3 post.
2. If not, adjust the **T3 post height** so that no tape curl occurs to the tape edge.

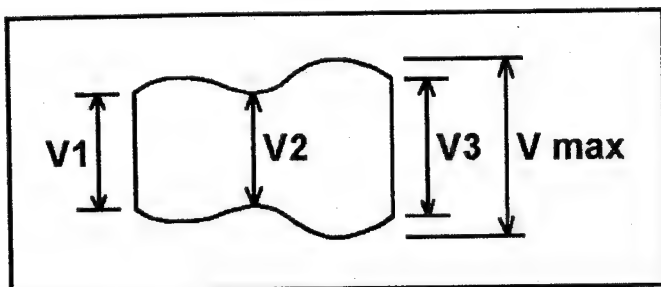
Post Limit Confirmation Flowchart



11. Linearity Preadjustment

SPEC.	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
TEST	TP500(VTR MAIN Board)
ADJUST	S1, T1 Post Height
MODE	PLAY(ATF)
TAPE	VFM3680KL (No.1 : 0~14min)
M.EQ	Oscilloscope
TOOL	VFK1149

1. Playback the alignment tape.
2. Adjust the **S1** and **T1** posts so that the envelope output is within specification.



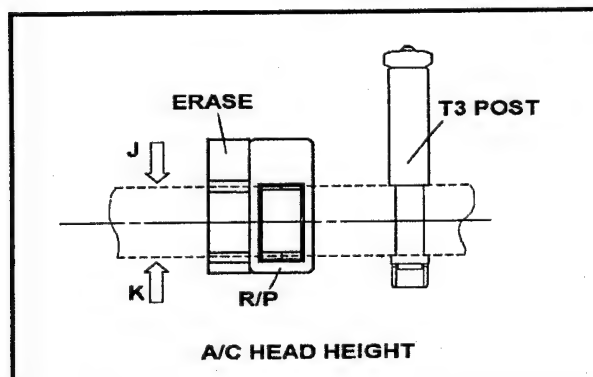
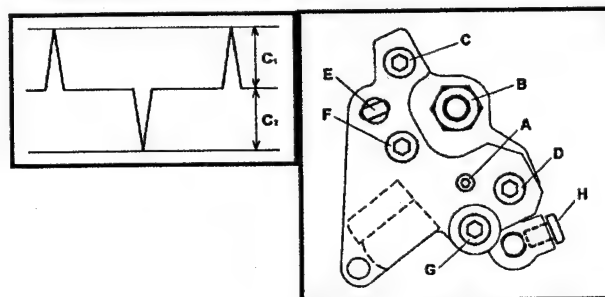
12. A/C Head Height Adjustment

BOARD	Servo
SPEC.	CTL Output : C1, C2 ≥ 220 (mV)
TEST	TP107 : CTL Output
ADJUST	Screw B, H(A/C Head)
MODE	PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
M.EQ	Oscilloscope
TOOL	VFK1150, VFK1190

1. Monitor the **TP107** on the Servo board.
2. Press the tape to the direction **J** or **K** and confirm that the **CTL** output level is **decreased**.
3. If direction **J** increases CTL output, loosen the **screw H** and adjust the **screw B** counterclockwise until CTL output is maximized.
4. If direction **K** increases CTL output, loosen the **screw H** and adjust the **screw B** clockwise until CTL output is maximized.
5. After tightening the **screw H(2.0kg)**, confirm the level again.

Note.

1. Adjust alternately with other A/C head adjustments(Azimuth, Height).



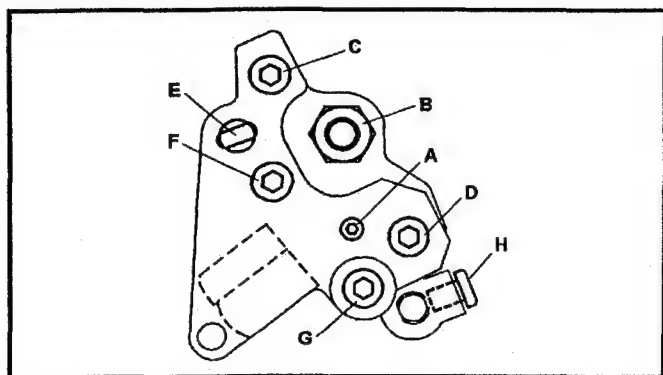
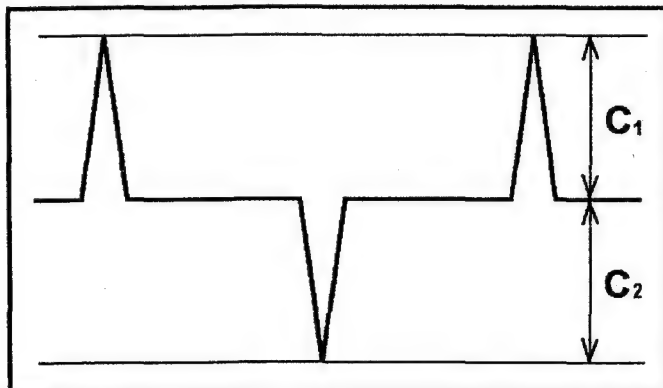
13. A/C Head Azimuth Adjustment

BOARD	Servo
SPEC.	CTL Output : C1, C2 = C1 max, C2 max
TEST	TP107 : CTL Output
ADJUST	Screw F(A/C Head)
MODE	PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
TOOL	VFK1148
M.EQ	Oscilloscope

1. Monitor the **TP107** on the Servo Board and adjust the **screw F** so that the **TP107** is maximized.

Note.

1. Adjust alternately with other A/C head adjustments(Tilt, Height).



14. Post Limit Confirmation 1

SPEC.	Post limits shown in the table. No tape curl
MODE	PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
TOOL	VFK1149 VFK1151

Post Limit Table

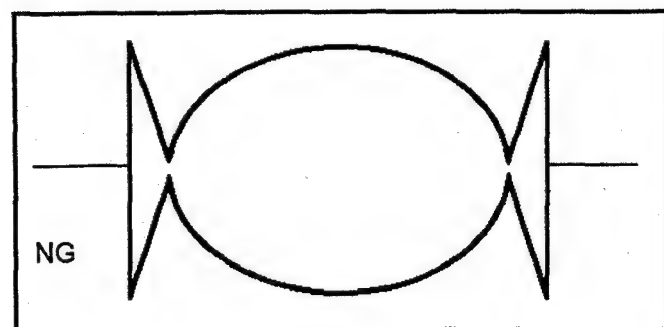
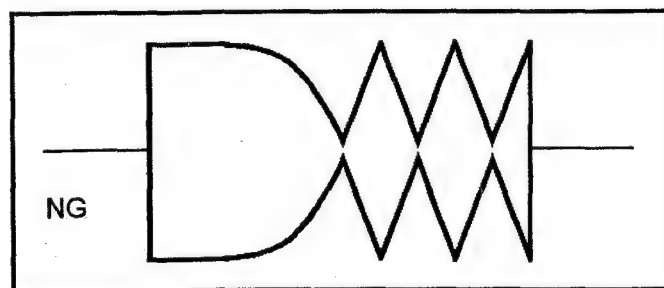
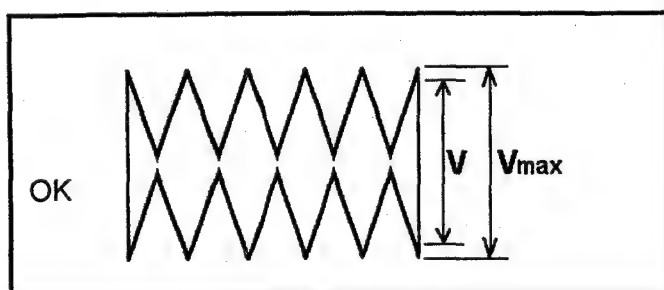
Post	Limit	Adjustment
S5 Post	Lower Limit or Free	S5 Post Height
S4 Post	Lower Limit	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Upper Limit	Linearity
T3 Post	Lower Limit	T3 Post Height
T4 Post	Lower Limit or Free	T4 Post Height

1. Confirm the post limit of each post and adjust in case of need.

15. Envelope Confirmation 1

SPEC.	$V/V_{max} \geq 0.9$
TEST	TP500(VTR MAIN Board)
MODE	FF, REW, REV(PLAY&REW)
TAPE	VFM3680KL (No.1:0-14min)
M.EQ	Oscilloscope

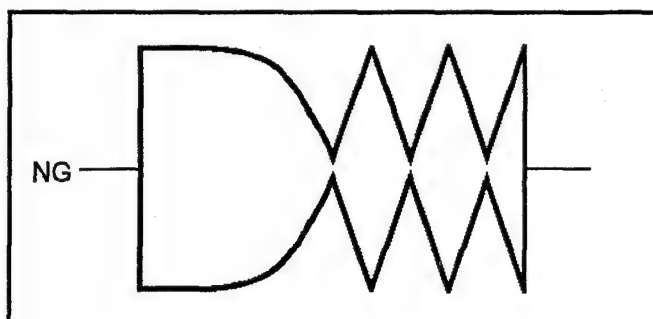
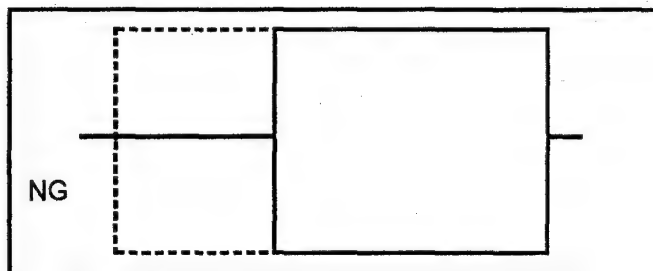
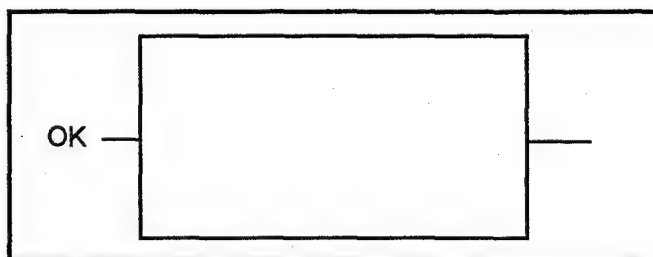
1. Confirm the envelope in each mode.
2. If out of specification, adjust the **S4 post height** again.



16. Envelope Confirmation 2

SPEC.	Envelope appears immediately.
TEST	TP500(VTR MAIN Board)
MODE	REW/REV(PLAY&REW) → PLAY FF → PLAY LOADING → PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
M.EQ	Oscilloscope

1. Confirm that the envelope appears immediately when the mode is switched from REW to PLAY, from REV to PLAY, from FF to PLAY and from LOADING to PLAY.
2. If out of specification, adjust the **S4 post height** again.



17. Tension Height Adjustment

SPEC.	Envelope appears immediately.
TEST	TP500(VTR MAIN Board)
ADJUST	S1, T1, S4 Post
MODE	REW/REV(PLAY&REW) → PLAY FF → PLAY LOADING → PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
M.EQ	Oscilloscope

* This adjustment must be done only when out of specification in Linearity Preadjustment, Envelope Confirmation1 or 2.

1. Turn the **S4 post 90 degrees counterclockwise** and adjust **S1** and **T1** posts again.
2. Confirm that the envelope appears immediately when the mode is switched from REW to PLAY, from REV to PLAY, from FF to PLAY and from LOADING to PLAY.
3. If out of specification, repeat **1.** again. Do not turn the **S4** post more than 360 degrees.

18. Post Limit Confirmation 2

SPEC.	Post limits shown in the table. No tape curl
MODE	REV(PLAY&REW)
TAPE	VFM3680KL (No.1 : 0~14min)
TOOL	VFK1149 VFK1151

Post Limit Table

Post	Limit	Adjustment
S5 Post	Free	S5 Post Height
S4 Post	Lower Limit or Free	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Free	Linearity
T3 Post	Lower Limit	T3 Post Height
T4 Post	Lower Limit	T4 Post Height

1. Confirm the post limit of each post and adjust again in case of need.

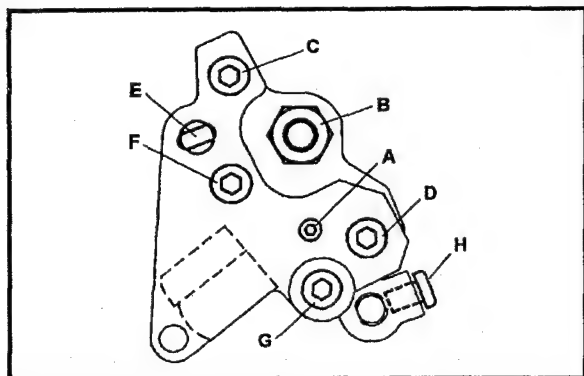
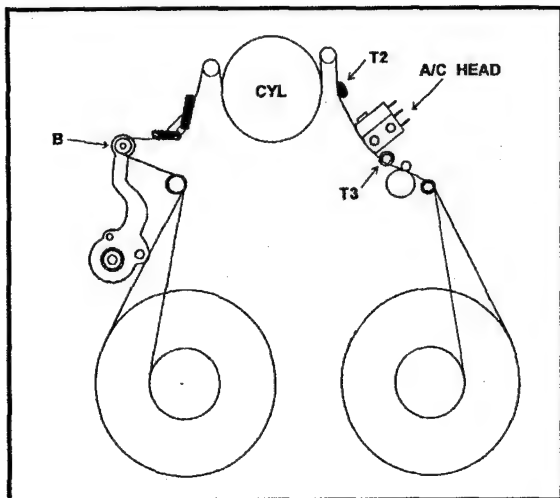
19. A/C Head Tilt Adjustment

SPEC.	No tape curl, Lower limit at T3 post
ADJUST	Screws A and G (A/C Head)
MODE	PLAY
TAPE	Blank tape
TOOL	VFK1148, VFK1178

1. Confirm that the screw (G) is tightened with 1.0kg of torque.
2. Play back the tape and adjust the A/C head tilt with screw(A) so that the tape path has lower limit at T3 post.

Note.

1. Screw(A) : clockwise : Tape goes up at T3 post.
counterclockwise : Tape goes down.
2. The final touch of the adjustment must be turned clockwise.
3. Adjust alternately with each A/C head adjustment(Azimuth, Height).



20. Post Limit Confirmation 3

SPEC.	Post limits shown in the table. No tape curl
MODE	FF, REW
TAPE	L cassette (beginning or ending portion) VFM3680KL (No.1 : 0~14min)
TOOL	VFK1149 VFK1151

Post Limit Table

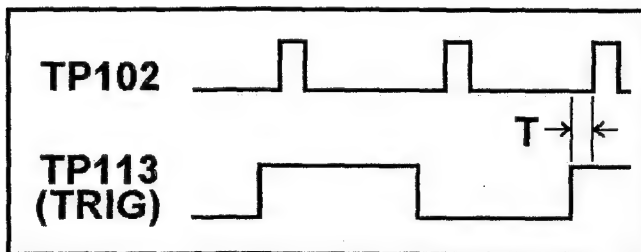
Post	Limit	Adjustment
S5 Post	Free	S5 Post Height
S4 Post	Lower Limit or Free	S4 Post Height
S1 Post	Upper Limit	Linearity
T1 Post	Free	Linearity
T3 Post	Free	T3 Post Height
T4 Post	Lower Limit or Free	T4 Post Height

1. Confirm **Post Limit Confirmation 1** and **2** playing back beginning or ending portion of L cassette.
2. Confirm the post limit of each post and adjust again in case of need.
3. If T3 post is adjusted, confirm that the tape has no curl at T3 post when loading or unloading.

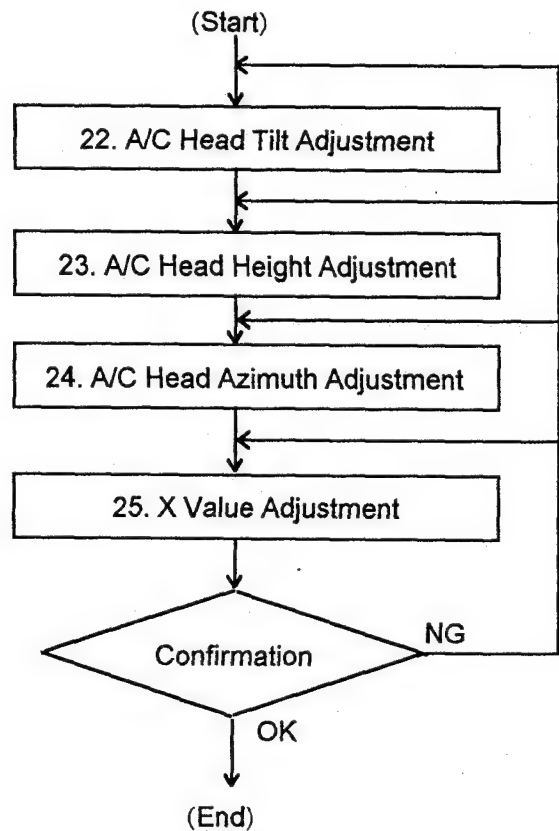
21. PG Shifter Adjustment

BOARD	Servo
SPEC.	$126.3 \pm 2.5 \mu s$
TEST	TP113, TP102
ADJUST	VR101
MODE	PLAY
TAPE	VFM3680KL (No.1 : 0~14min)
M.EQ	Oscilloscope

1. Adjust the **VR101** so that the T is within specification. (Trigger : TP113).



A/C Head Adj. Flowchart



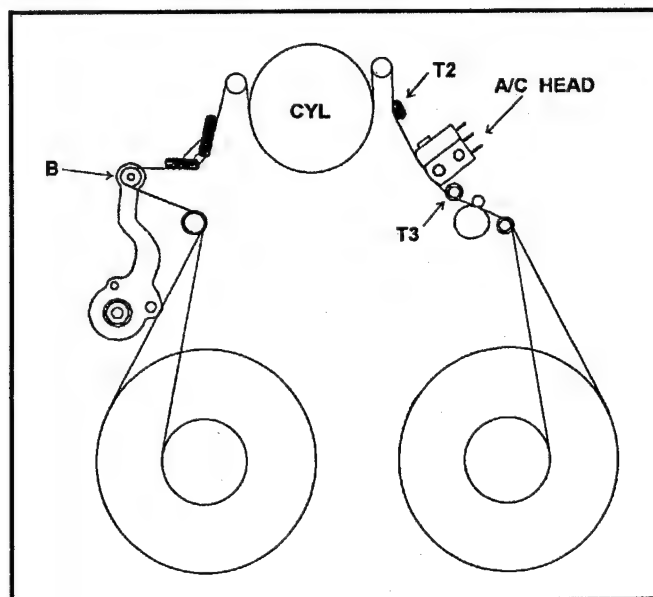
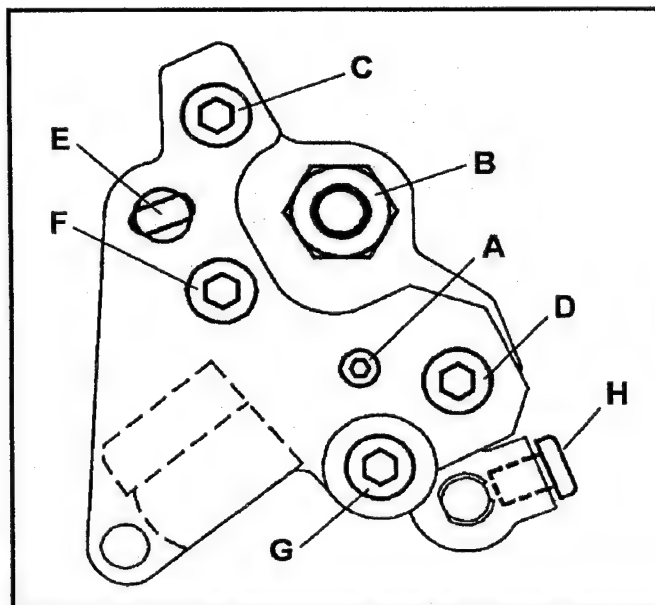
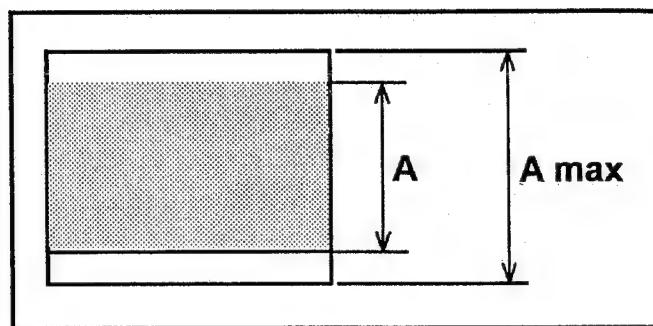
22. A/C Head Tilt Confirmation

SPEC.	CUE Output : $A/A_{max} \geq 0.9$
TEST	TP4004(VTR MAIN Board)
ADJUST	Screw A, G(A/C Head)
MODE	PLAY
TAPE	VFM3680KL (No.1 : 14~22min)
TOOL	VFK1178, VFK1148
M.EQ	Oscilloscope

1. Playback the CUE portion(6kHz) of the Alignment tape.
2. Confirm that the screw G and H are not loosened.
3. Vibrate the tension arm horizontally (B direction) and confirm that the output level (TP4004) is within specification.
4. If out of specification, loosen the screw G and adjust the screw A, then tighten the screw G with 1.0kg torque

Note.

1. The final touch of the adjustment must be turned clockwise. After the adjustment, confirm that the screw A is not loosened.
2. When the screw A is adjusted, make Post Limit Confirmation 1 again.



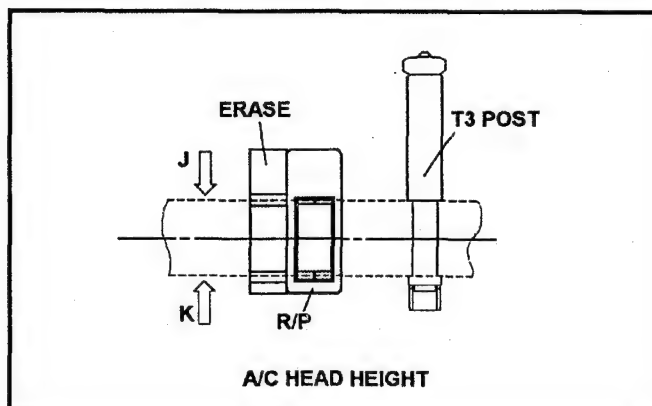
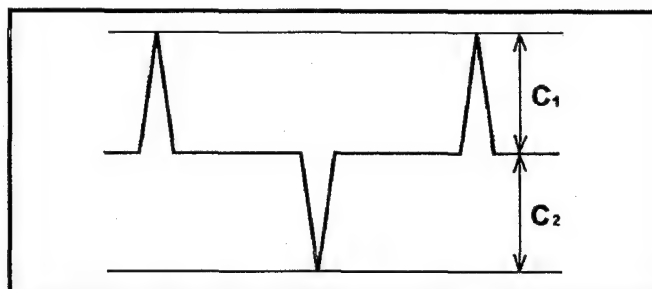
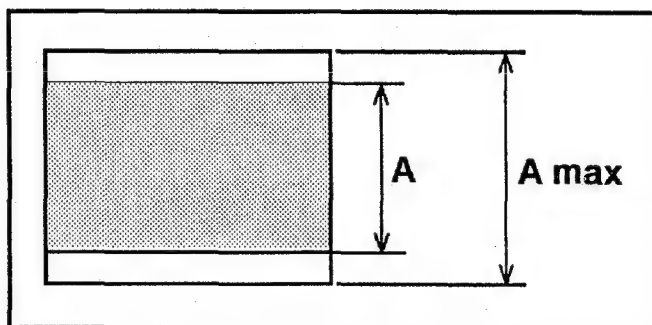
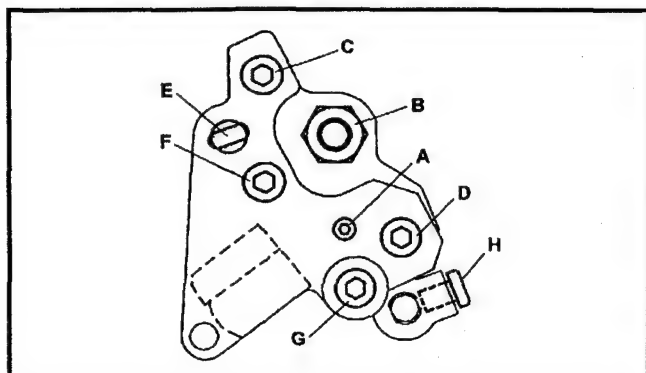
23. A/C Head Height Confirmation

SPEC.	CUE Output : $A = A \text{ max}$ CTL Output : $C_1, C_2 \geq 220\text{mV}$
TEST	TP4004 (VTR MAIN Board) TP107 (Servo Board)
ADJUST	Screw B, H (A/C Head)
MODE	PLAY
TAPE	VFM3680KL (No.1 : 14~22min)
TOOL	VFK1150, VFK1190
M.EQ	Oscilloscope

1. Confirm that the **screw H** is tightened.
2. Playback the CUE portion(6kHz) of the Alignment tape.
3. Push the tape to the **direction J or K** and confirm that the **TP4004** level is not increased.
4. If it is increased, make "A/C Head Height Adjustment" again.

Note.

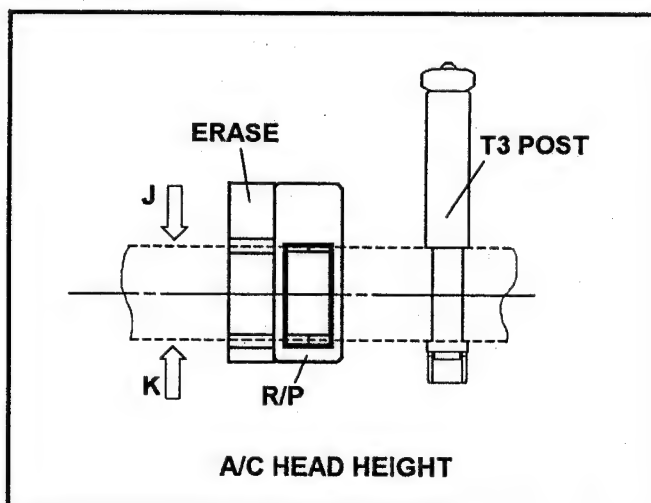
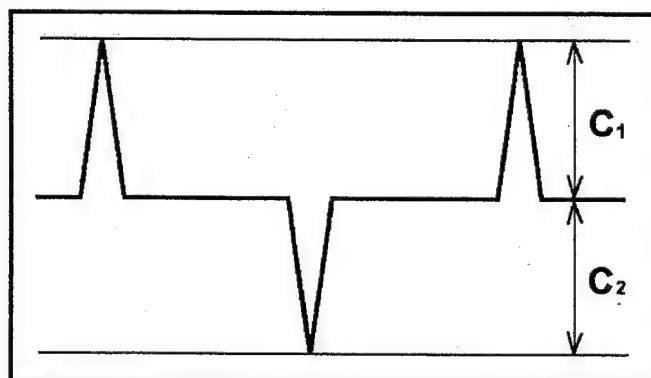
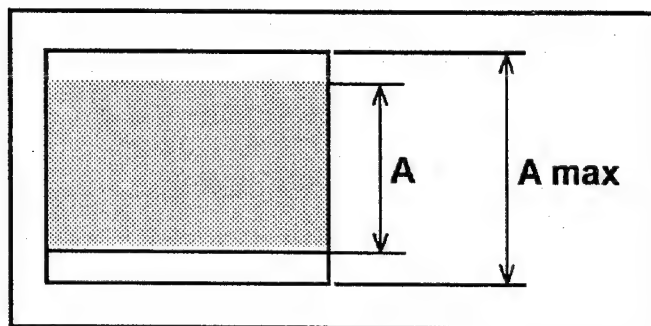
1. Adjust alternately with A/C Head Azimuth adjustments.



24. A/C Head Azimuth Confirmation

SPEC.	CUE Output : $A = A \text{ max}$ CTL Output : $C1, C2 \geq 220\text{mV}$
TEST	TP4004 (VRT MAIN Board) TP107 (Servo Board)
ADJUST	Screw F (A/C Head)
MODE	PLAY
TAPE	VFM3680KL (No.1 : 14~22min)
TOOL	VFK1148
M.EQ	Oscilloscope

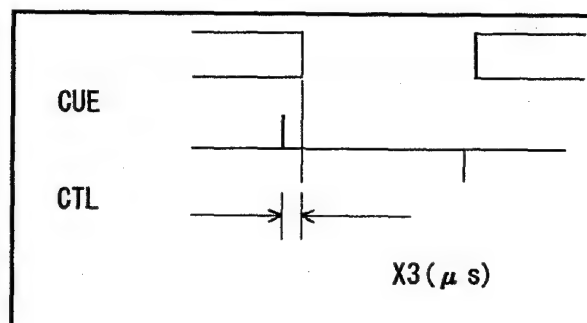
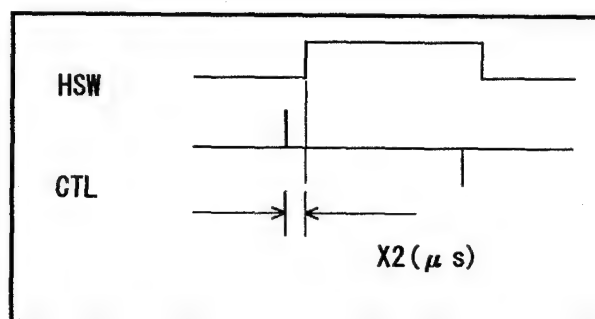
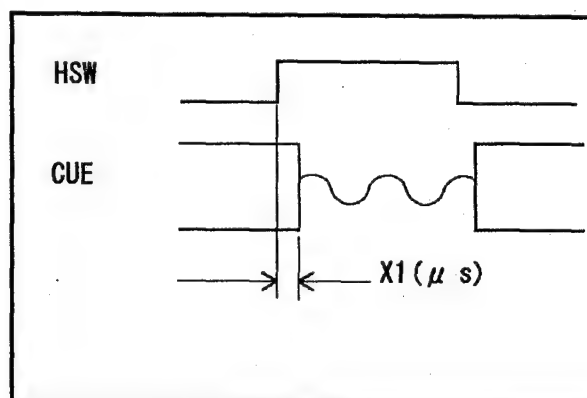
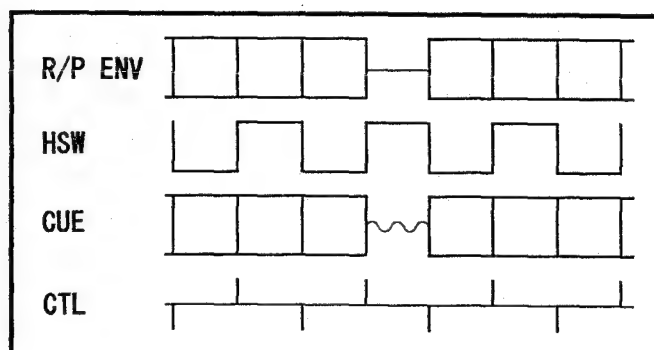
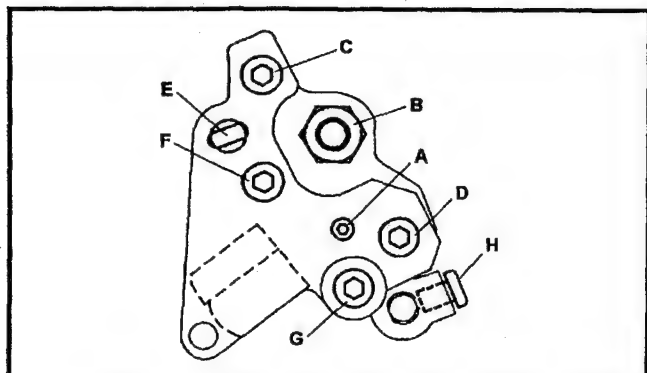
1. Playback the CUE portion(6kHz) of the Alignment tape.
2. Push the tape to the **direction J** or **K** and confirm that the **TP4004** level is not increased.
3. If it is increased, make "A/C Head Azimuth Adjustment" again.



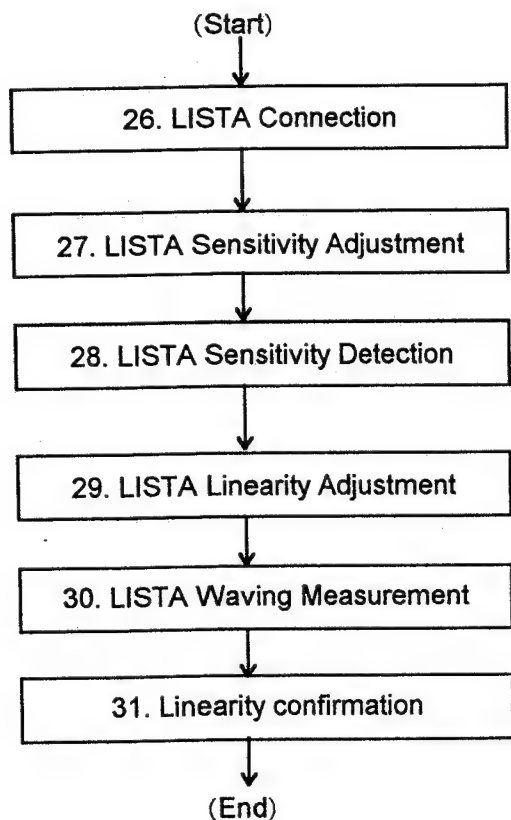
25. X Value Adjustment

SPEC.	$-250\mu\text{s} \leq X1, X2, X3 \leq 250\mu\text{s}$
TEST	TP500 : R/P ENV (VTR MAIN Board) TP300 : HSW (VTR MAIN Board) TP4004 : CUE (VTR MAIN Board) TP107 : CTL (Servo Board)
ADJUST	A/C Head
MODE	PLAY(ATF control)
TAPE	VFM3682KL (X Value)
TOOL	VFK0357, Hex Wrench
M.EQ	Oscilloscope

1. Adjust **A/C Head Azimuth** so that the CTL and lack part of CUE are match in the phase.
2. Confirm the lack track of R/P envelope and select the HSW correspond with it (The lack track corresponds to Lch(HSW : High)).
3. Adjust CUE phase (**X Value**) so that the lack part of CUE and selected HSW are match in the phase. [To adjust X Value, loosen the screws C and D. Adjust the hole E and then tighten the screws C and D with 2.5kg torque.]
4. Adjust the **Azimuth** at the same time so that the relation between the CTL and CUE is kept.
5. Confirm that X1, X2 and X3 are within specification.



Linearity Adjustment Flowchart



26. LISTA Connection

BOARD	Servo
TEST	TP115 : ATF Error (Servo Board) TP113 : HSW_R (Servo Board) TG300 : GND (Servo Board)
TAPE	VFM3681KL (No.2 : LISTA master)
M.EQ	LISTA

1. Confirm that the power is turned off and make a short-circuit between **TP902** and **TP116**.
2. Connect LISTA cable between A/D board and the test points as shown in table above.
3. Execute LISTA * * E.EXE. (* * is a software version.)
4. Select "<2>AJ-D700" menu in the LISTA menu.
5. Select the number of the alignment tape. If the alignment tape data is not entered, input the data written on the enclosed paper into PC manually.

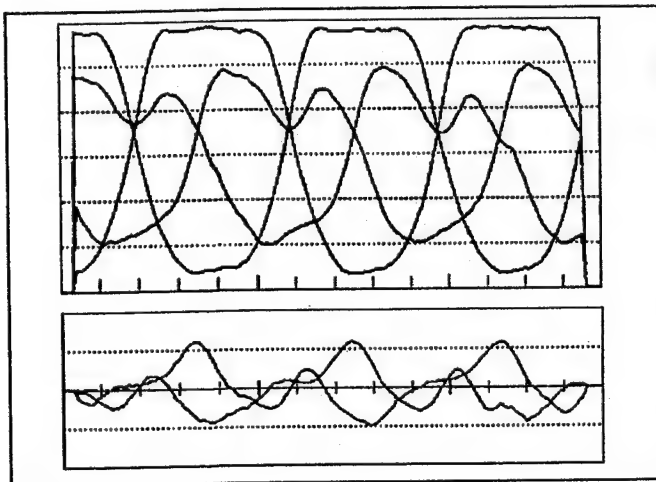
Linearity monitor system of track
using ATF error signal for DVCPRO
-- LISTA PRO --
PC-AT Ver.1.0
<<AJ-D700>>

- <1>Sensitivity Measurement[---mV/um]
- <2>Linearity Measurement
- <3>Data Save / Load [C:\LISTA]
- <4>Alignment Tape [0000000]
- <5>Peak Hold Setting [30sec]
- <6>ATF Error Signal Monitor
- <7>Quit

27. LISTA Sensitivity Adjustment

BOARD	Servo
SPEC.	Sensitivity : 100 ± 10 (mV/ μ m)
TEST	TP115 : ATF Error (Servo Board) TP113 : HSW_R (Servo Board) TG300 : GND (Servo Board)
ADJUST	ATF Gain (EVR)
MODE	+1.2% Playback
TAPE	VFM3681KL (No.2 : LISTA master)
M.EQ	LISTA, EVR

1. Set up the EVR tool according to Connection figure at the beginning of Electrical Adjustments.
2. Confirm that the power is turned off and make a short-circuit between **TP902** and **TP116** to place the unit in +1.2% Playback mode.
3. Playback an alignment tape.
4. Select **<6>ATF Error Signal Monitor** menu and display the sensitivity data.
5. Press the [→] or [←] key in PC so that the sensitivity value which is described as **Sens. Value** is within specification.
6. After the adjustment, press ESC key to exit to the menu.



28. LISTA Sensitivity Detection

BOARD	Servo
SPEC.	Sensitivity : 100 ± 10 (mV/ μ m)
TEST	TP115 : ATF Error (Servo Board) TP113 : HSW_R (Servo Board) TG300 : GND (Servo Board)
MODE	+1.2% Playback
TAPE	VFM3681KL (No.2 : LISTA master)
M.EQ	LISTA

1. Confirm that the power is turned off and make a short-circuit between **TP902** and **TP116** to place the unit in +1.2% Playback mode.
2. Playback an alignment tape.
3. Select **<1>Sensitivity Measurement** menu and start the sensitivity detection.
4. Confirm that the sensitivity value is within specification.
5. If out of specification, repeat the steps 3 and 4.
6. If still out of specification, make "LISTA Sensitivity Adjustment again.

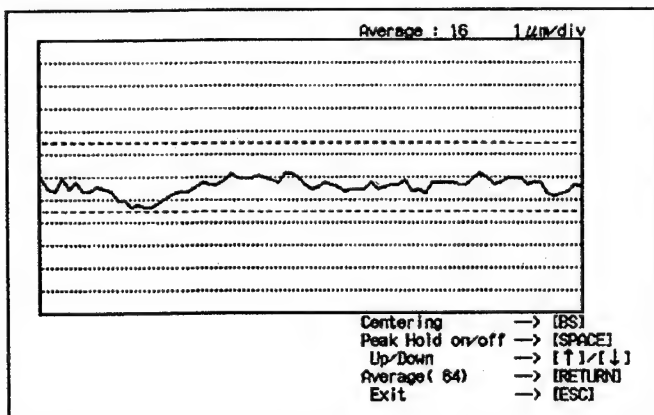
29. LISTA Linearity Adjustment

BOARD	Servo
SPEC.	Linearity : Less than 3 μ m
TEST	TP115 : ATF Error (Servo Board) TP113 : HSW_R (Servo Board) TG300 : GND (Servo Board)
ADJUST	S1, T1 Post Height
MODE	LISTA mode
TAPE	VFM3681KL (No.2 : LISTA master)
TOOL	VFK1149
M.EQ	LISTA

1. Confirm that the power is turned off and make a short-circuit between TP902, TP116 and TP101 to place the unit in LISTA mode.
2. Playback an alignment tape.
3. Select <2>Linearity Measurement menu, and display the linearity.
4. Adjust the S1 post height and T1 post height so that the linearity is within specification.

Note.

1. Lower part of the monitor shows the lead.
2. Current linearity is red line.



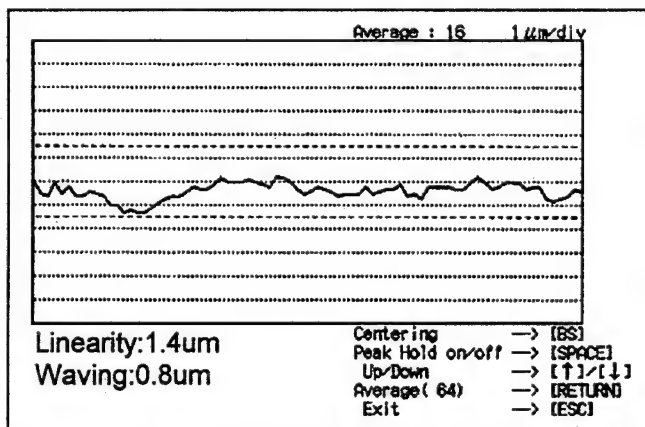
30. LISTA Waving Measurement

BOARD	Servo
SPEC.	Waving : Less than 1.5 μ m
TEST	TP115 : ATF Error (Servo Board) TP113 : HSW_R (Servo Board) TG300 : GND (Servo Board)
ADJUST	S1, T1 Post Height
MODE	LISTA mode
TAPE	VFM3681KL (No.2 : LISTA master)
TOOL	VFK1149
M.EQ	LISTA

1. Confirm that the power is turned off and make a short-circuit between TP902, TP116 and TP101 to place the unit in LISTA mode.
2. Playback an alignment tape.
3. Select <2>Linearity Measurement menu, and display the linearity.
4. After linearity is displayed, press the SPACE key to hold the peak (Peak-Hold) during 30 seconds.
5. After Peak-Hold, press the SHIFT key and } key together to display the measurement value and confirm that the value is within specification.
6. After the adjustment, press ESC key to exit to the menu.

Note.

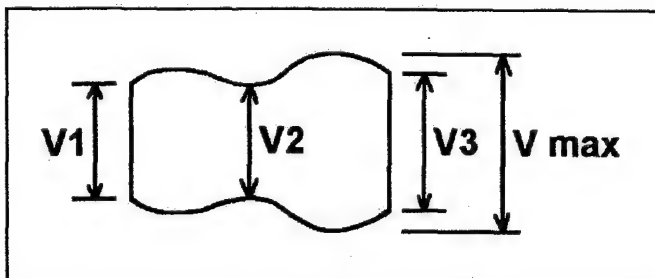
1. Confirm that waving value is almost same from the entrance to the exit.
2. If out of specification because of wrong post limits, adjust the S1 and T1 posts again.



31. Linearity Confirmation

SPEC.	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
TEST	TP500(VTR MAIN Board)
MODE	PLAY(ATF)
TAPE	Blank Tape
TOOL	VFK1149
M.EQ	Oscilloscope

1. Record the color bar signal.
2. Play back the recorded portion and confirm that the envelope output is within specification.



SECTION 4

ELECTRICAL ADJUSTMENTS

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1. POWER

1-1. DC Voltage Adjustment

ITEM	TEST	ADJUST	SPEC.
3.15V ADJ.	* TP9 / TG300	VR5	3.15±0.05V/ -0.00V
3.6V ADJ.	TP4	VR3	3.6±0.05V
5.0V ADJ.	TP5	VR2	5.0±0.05V
5.6V ADJ.	TP3	VR1	5.6±0.05V
-5.6V ADJ.	TP8	VR6	-5.6±0.51V
9.0V ADJ.	TP6	VR4	9.0±0.05V
48V Confirm	TP9	---	44.0±4.0V

Note:

*The test point of 3.15V adjustment is on the MAIN C.B.A., other TP and VR are on the POWER C.B.A.
(GND: TP2)

<< PC-EVR Operation >>

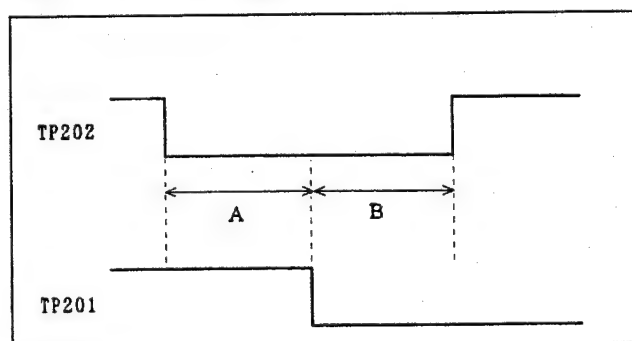
1. Select Start Adjustment D223 and press Enter.
2. Select "PAL" and press Enter.
3. Press F1 (File) key.
4. Select "HD Read" on * Auto File and press Enter.
5. Select adjustment item of Sub Title on < Select File to Read >.
6. Press "F5 (Mode)" key and set "1 Step or All Steps" mode.
7. Select adjustment item by ↑ or ↓ key and press Enter.
8. Adjust value by ↑ or ↓ key at < Interactive Adjustment > window.
9. Press Enter to Exit from above window.

2. PRE-SHUFFLE

2-1. PLL POS. Adjustment

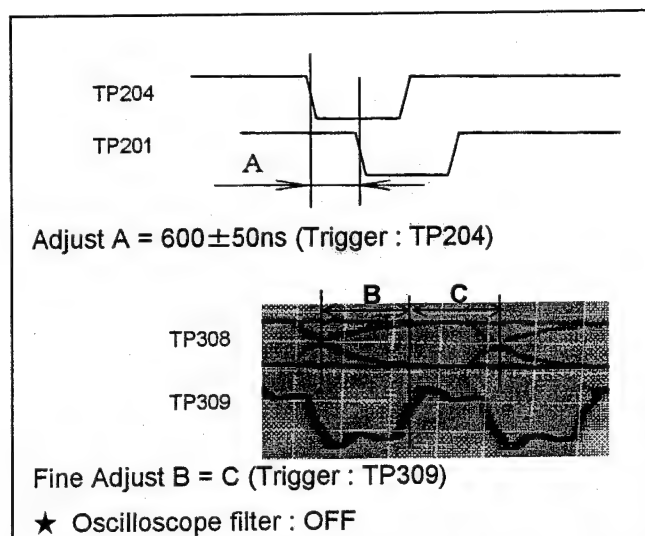
BOARD	PRE-SHUFFLE
TEST	TP201, TP202
ADJUST	PC-EVR: PLL_POS1_PAL
MODE	EE
TAPE	---
M.EQ	Oscilloscope
SPEC.	B = A ± 10%

Select PC-EVR " VIDEO ADJUSTMENT 1 " ⇒ "1. PLL_POS_ADJUSTMENT".



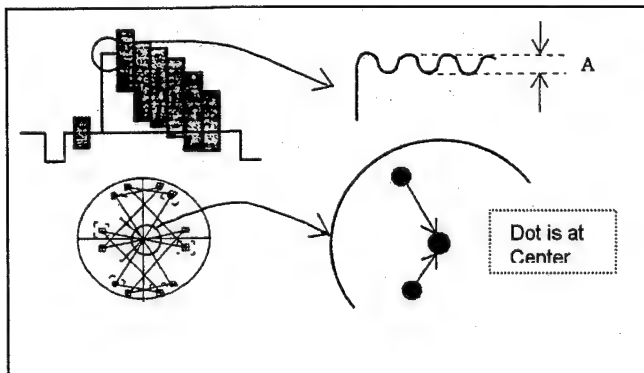
2-2. INH POS. Adjustment

BOARD	PRE-SHUFFLE
TEST	TP201, TP204, TP308, TP309
ADJUST	VR201
MODE	EE
TAPE	---
M.EQ	Oscilloscope
SPEC.	A = 600 ± 50ns, B = C



2-3. Carrier Balance Adjustment

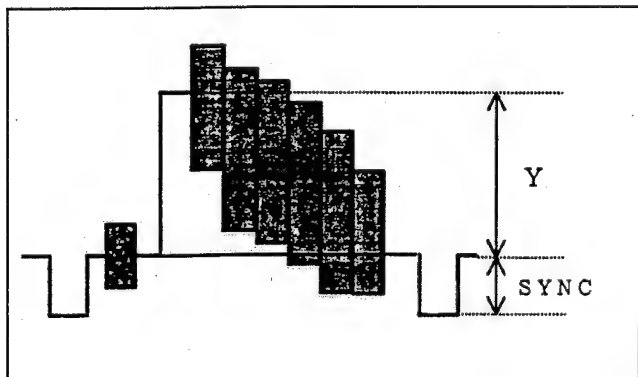
BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VR609 (PR), VR610 (PB)
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	WFM, Vector Scope
SPEC.	$A \leq 10\text{mVp-p}$



2-4. Video & SYNC Level Adjustment

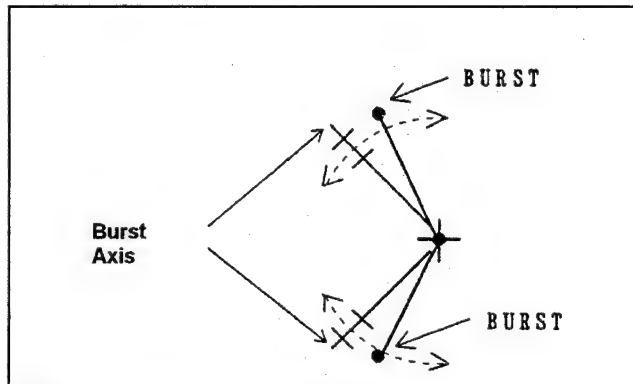
BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	PC-EVR: Y_LEVEL VR602 (SYNC)
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	Oscilloscope or WFM
SPEC.	$Y = 700 \pm 15\text{mVp-p}$ $\text{SYNC} = 300 \pm 4\text{mVp-p}$

Select PC-EVR " VIDEO ADJUSTMENT 1 " \Rightarrow "2. Y_LEVEL_ADJUSTMENT ", And SYNC Level adjust by VR602.



2-5. Burst Phase Adjustment

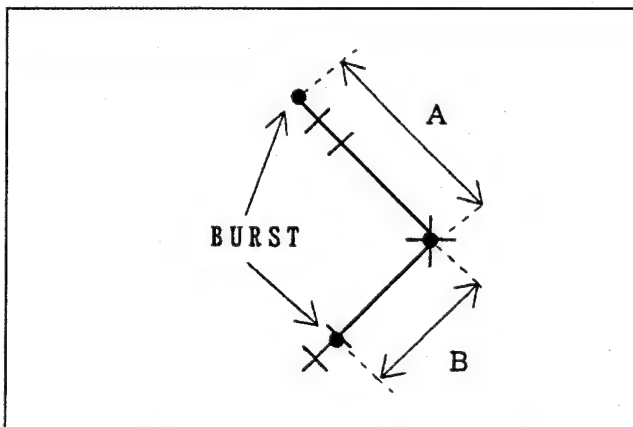
BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VR608
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	Vector Scope
SPEC.	Vector Scale (see below)



Adjust the both Burst phase align to the Burst Axis of the Vector Scope.

2-6. QUAD Adjustment

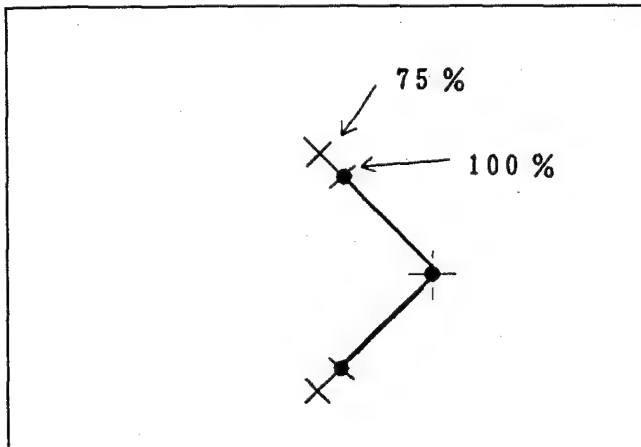
BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VC601
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	Vector Scope
SPEC.	$A = B$



Adjust the Burst level A and B are same level.

2-7. Burst Level Adjustment

BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VR607
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	Vector Scope
SPEC.	Burst Level = 100% Scale



2-8. Chroma Level Adjustment

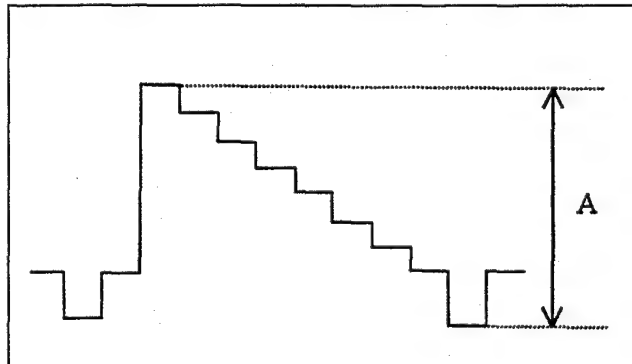
BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VR604 (PB) PC-EVR: C_LEVEL (PR)
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	Vector Scope
SPEC.	

Select PC-EVR " VIDEO ADJUSTMENT 1 " \Rightarrow "3. CHROMA_ADJUSTMENT(PR_LEVEL)".

Adjust PR level by PC-EVR first and PB level by VR so that Red dot Becomes into center of square mark on the Vector Scope. And confirm other colour dot on the each square marks.

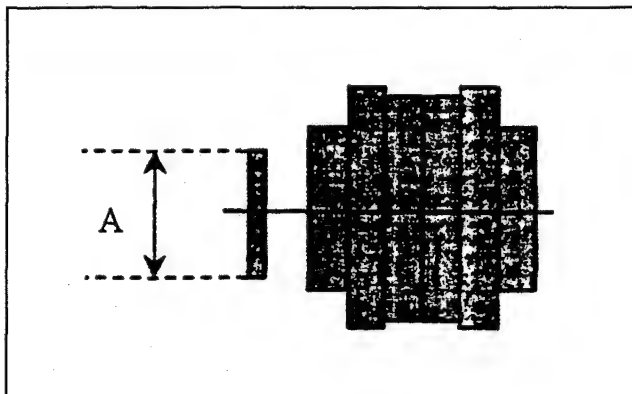
2-9. Y Out Level Adjustment

BOARD	PRE-SHUFFLE
TEST	S-VIDEO (Y out)
ADJUST	VR802
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	WFM or Oscilloscope
SPEC.	$A = 1.00 \pm 0.02V_{p-p}$



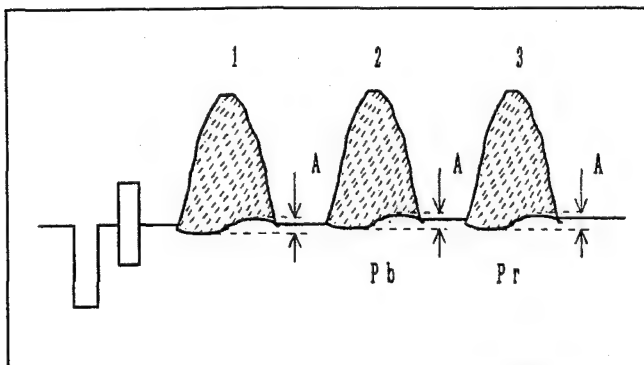
2-10. C Out Level Adjustment

BOARD	PRE-SHUFFLE
TEST	S-VIDEO (C out)
ADJUST	VR803
MODE	PLAY
TAPE	VFM3680KL (Color Bar)
M.EQ	WFM or Oscilloscope
SPEC.	$A = 300 \pm 6mV_{p-p}$



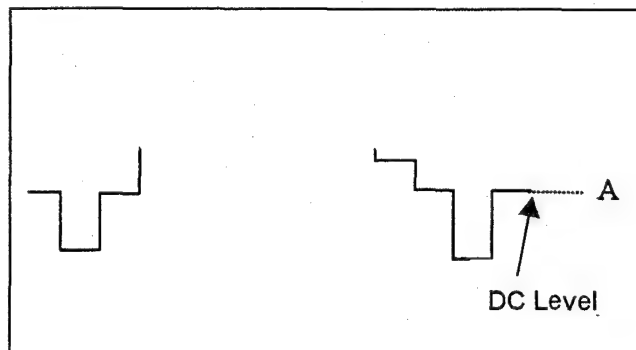
2-11. Y/C Timing Adjustment

BOARD	PRE-SHUFFLE
TEST	VIDEO out
ADJUST	VR603 (PB), VR605 (PR)
MODE	PLAY
TAPE	VFM3680KL (Pulse & Bar)
M.EQ	WFM or Oscilloscope
SPEC.	A = Minimize



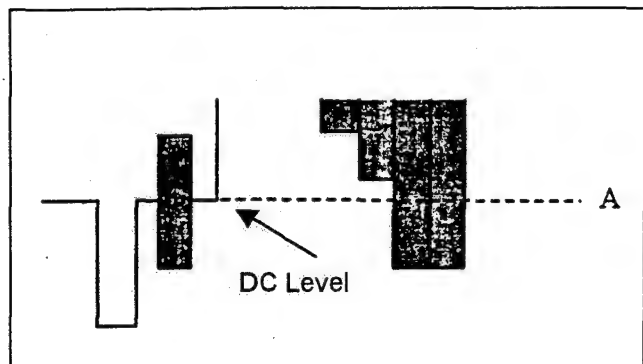
2-13. Y Out DC Adjustment

BOARD	PRE-SHUFFLE
TEST	TP802
ADJUST	VR801
MODE	EE
TAPE	---
M.EQ	Oscilloscope
SPEC.	A = $0 \pm 0.02V$



2-12. Video Out DC Adjustment

BOARD	PRE-SHUFFLE
TEST	TP804
ADJUST	VR804
MODE	EE
TAPE	---
M.EQ	Oscilloscope
SPEC.	A = $0 \pm 0.02V$

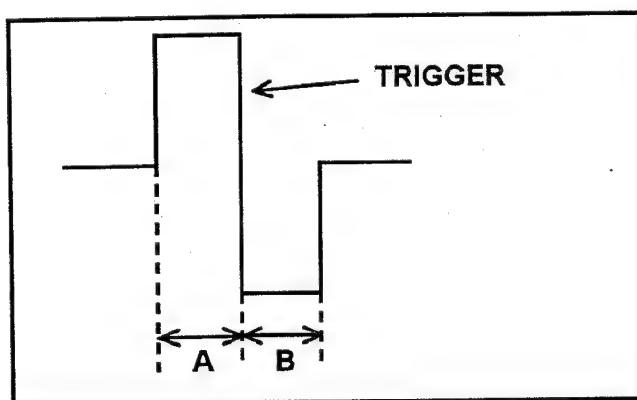


3. VIDEO / RF

3-1. AUDIO VCO Adjustment

BOARD	MAIN
TEST	TP8
ADJUST	PC-EVR: AUDIO_VCO=
MODE	EE
TAPE	---
M.EQ	Oscilloscope
SPEC.	$A = B \pm 5\%$

Select PC-EVR " VIDEO ADJUSTMENT 2 " \Rightarrow " 1. AUDIO_VCO ".

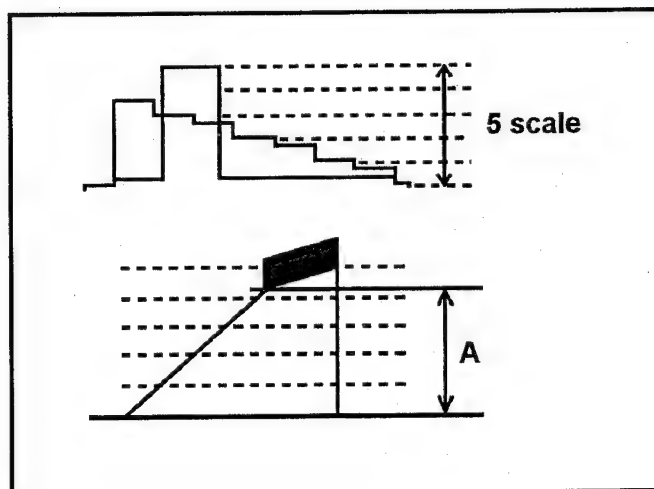


3-2. ZEBRA Adjustment

BOARD	MAIN
TEST	TP12
ADJUST	PC-EVR
MODE	PALY & EE
TAPE	VFM3680KL (Color Bar)
M.EQ	Oscilloscope
SPEC.	4.25 ± 0.15 CRT scale

Select PC-EVR " VIDEO ADJUSTMENT 2 " \Rightarrow " 2. ZEBRA_ADJUSTMENT ".

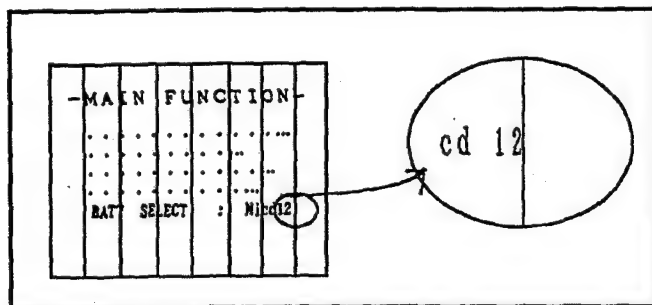
1. Playback the alignment tape and set TP12 (Y level) to 5 scales of the oscilloscope by CAL.
2. Select "OUTPUT=RAMP" command and press Enter, the unit will change Ramp signal mode.
3. Adjust PC-EVR (ZEBRA=) so that A level becomes 4.25 scale level of the oscilloscope.
4. After completed this adjustmet, make sure select "OUTPUT=CAM" to back camera signal mode.



3-3. Character Position Adjustment

BOARD	MAIN
TEST	VIEW FINDER CRT
ADJUST	VC1
MODE	EE
TAPE	---
M.EQ	---
SPEC.	See below

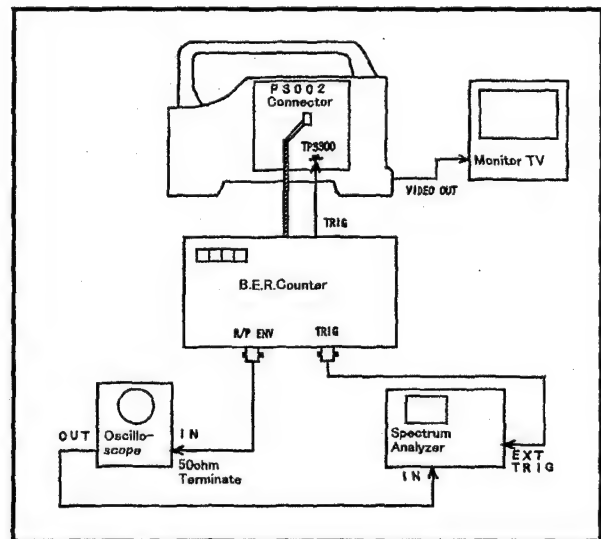
1. Set the CAM/BAR switch to BAR side.
2. Adjust VC1 (VC6001) so that right edge of character comes as below position.



<RF Adjustment Preparation>

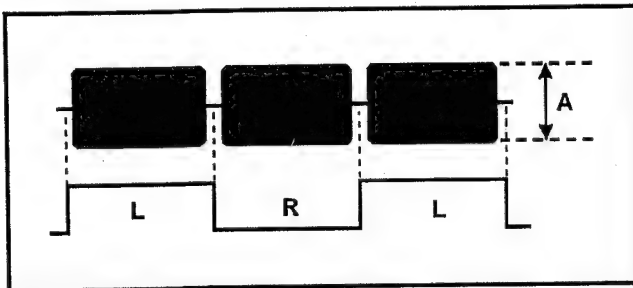
Spectrum Analyzer setting

START FREQ. : 0Hz
 STOP FREQ. : 25Hz
 RES BW : 300KHz
 VIDEO BW : 1KHz
 SWEEP TIME : 75ms
 dB/div : 2dB
 REF LEVEL : -42dB (Oscilloscope: 20mV)
 TRIG : EXT (TP3300)



3-4. R/P Envelope Confirmation

BOARD	VTR MAIN
TEST	R/P Envelope, TP3300
ADJUST	---
MODE	PLAY
TAPE	VFK3680KL (Color bar)
M.EQ	Oscilloscope
SPEC.	$A \geq 70\text{mVp-p}$



3-5. PB Equalizer Adjustment

BOARD	VTR MAIN
TEST	B.E.R. Counter
ADJUST	PC-EVR: as following commands
MODE	PLAY
TAPE	VFK3680KL
M.EQ	B.E.R. Counter
SPEC.	Less than 250 at Counter display

Select PC-EVR " VIDEO ADJUSTMENT 2 " \Rightarrow "3. PLAYBACK_E.Q._ADJUSTMENT ".

1. Select " Setting " line and press Enter, automatically set INNERECC and OUTERECC to OFF mode.
2. Playback alignment tape and adjust PC-EVR (PLL_SL= \rightarrow PLL_POS= \rightarrow AUTO_EQ= \rightarrow EQ_a_L= \rightarrow EQ_b_L= then repeat PLL_SL=) so that L-ch error rate becomes minimum.
3. Set CH SW of B.E.R. Counter to R side and adjust PC-EVR (EQ_a_R= \rightarrow EQ_b_R=) so that R-ch error rate becomes minimum.

3-6. REC Current Adjustment

BOARD	VTR MAIN
TEST	TP3202 (L-ch), TP3203 (R-ch)
ADJUST	PC-EVR: REC_cur_L=, REC_cur_R=
MODE	REC / PB
TAPE	Recording Tape
M.EQ	Spectrum Analyzer
SPEC.	See Below

Select PC-EVR " VIDEO ADJUSTMENT 2 " \Rightarrow "10. REC_CUR_ADJUSTMENT ".

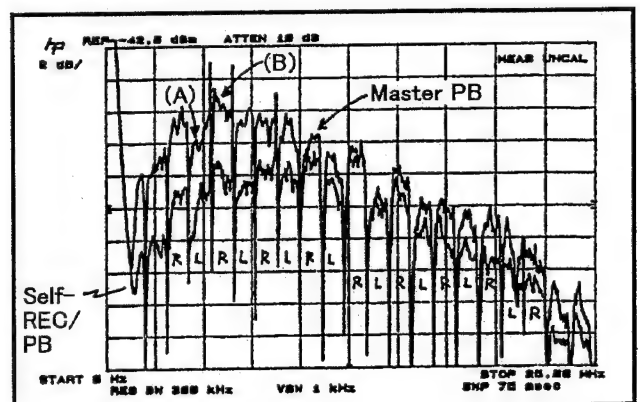
B.E.R. Counter setting

Error Count : OFF

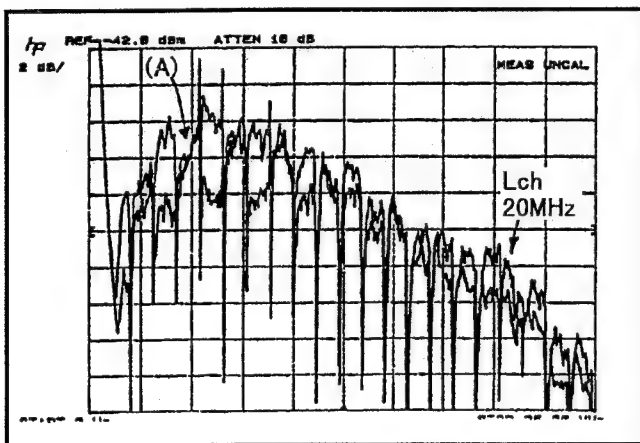
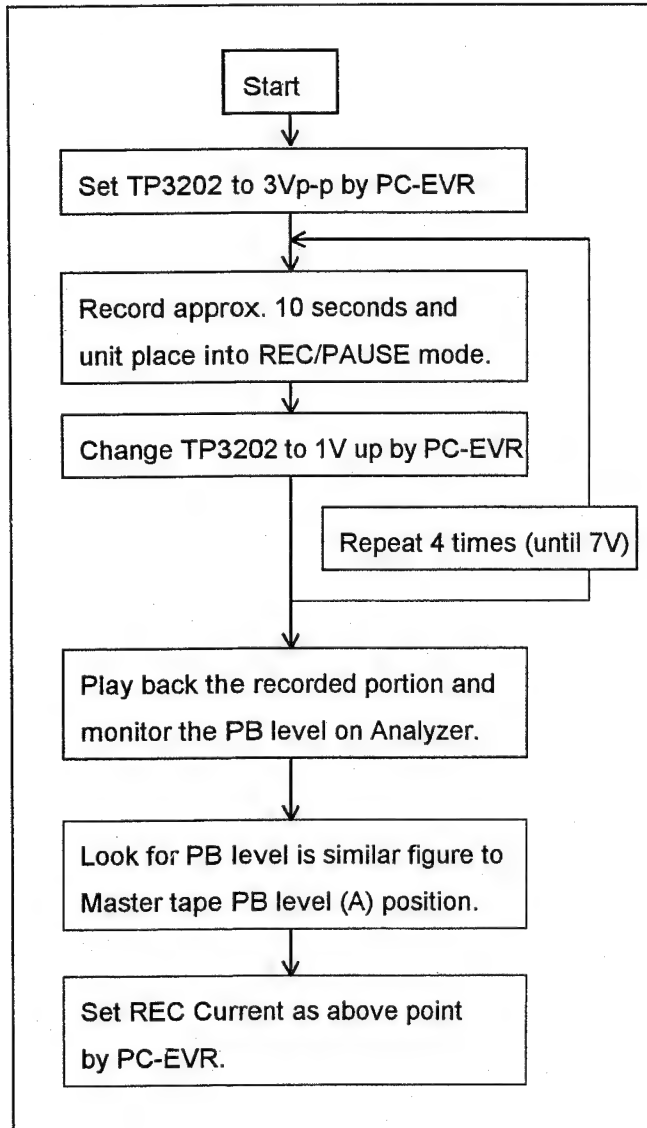
HSW SW : R

<< Preparation >>

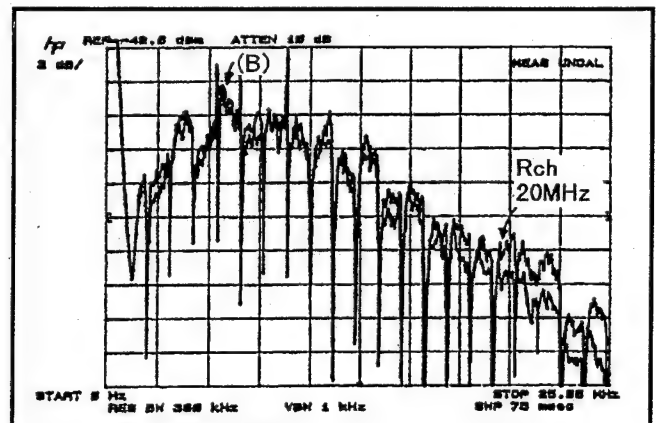
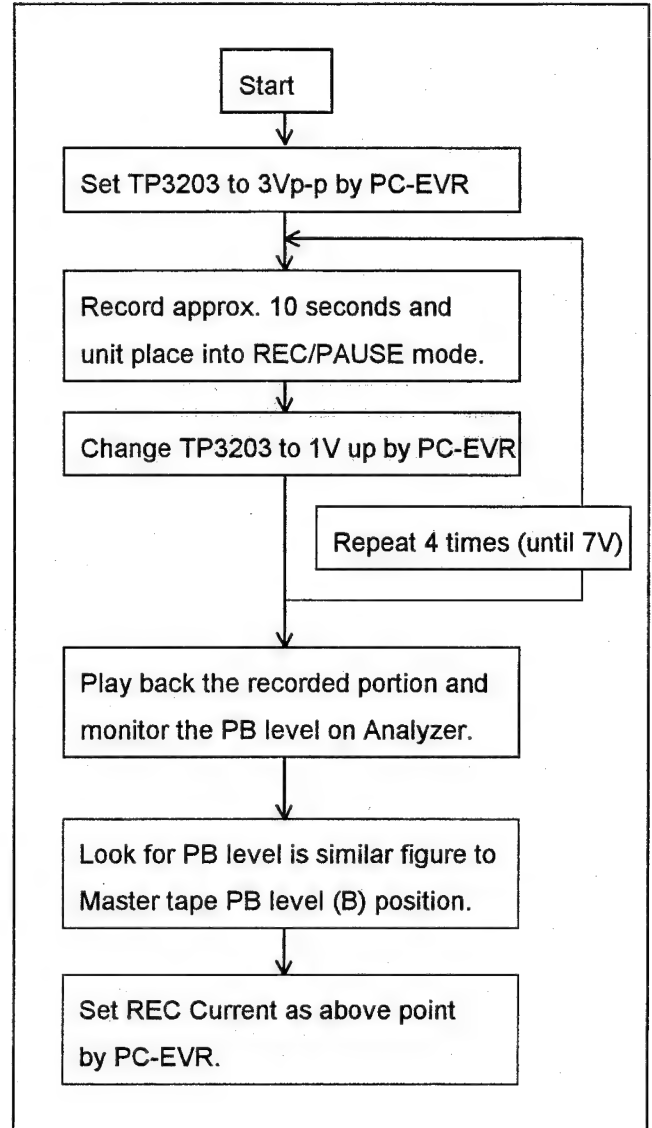
1. Playback the color bar portion of alignment tape and store average of 50 sampling in TRACE B on the Spectrum Analyzer.
2. Insert blank tape and record internal color bar signal.
3. Set REC current level for both channel to 3Vp-p by PC-EVR (L-ch: REC_CUR_L=, R-ch: REC_CUR_R=).
4. Play back just recorded portion and confirm (A) and (B) point should be lower than master play back level.



<< L-ch Adjustment >>



<< R-ch Adjustment >>



After completed RF adjustment should be set ECC mode to OFF.

Select PC-EVR "VIDEO ADJUSTMENT 2" ⇒ "12. SETTING", it is set INNERECC and OUTECC to OFF

4. AUDIO

4-1. PB LEVEL Adjustment

BOARD	VTR MAIN
TEST	AUDIO OUT
ADJUST	VR4101 (CH1), VR4201 (CH2)
MODE	PLAY
TAPE	VFM3680KL
M.EQ	V.T.V.M
SPEC.	-6dBu \pm 0.2dBu

1. Adjust VR4101 for CH1 and VR4201 for CH2 so that play back level becomes within specification.

4-2. CUE REC LEVEL Adjustment

BOARD	VTR MAIN
TEST	TP4001
ADJUST	VR4003
MODE	STOP
TAPE	---
M.EQ	V.T.V.M
SPEC.	-10dBu \pm 0.2dBu

<< Preparation >>

- Select MIC SELECT SW on the side panel to "REAR" position for both channel.
- Set REAR MIC LEVEL in menu screen to "-40dB" position.
- Set CUE REC SELECT in menu screen to "CH1" position.
- Adjust audio signal generator level becomes -6dBu at audio output.
- Connect PC-EVR and set Dolby OFF mode as following steps.
 1. Use F6 Direct Command function
 2. Type "DOLBY=OFF" then press Enter.

1. Adjust VR4003 so that audio out put level becomes within specification.

After completed this adjustment should be perform next item "4-3. CUE REC CURRENT ADJ.". Then make sure Dolby set to ON mode by PC-EVR.

4-3. CUE REC Current Adjustment

BOARD	REAR JACK
TEST	TP1002
ADJUST	VR1002
MODE	PLAY
TAPE	VFM3680KL
M.EQ	V.T.V.M
SPEC.	0 \pm 3dBu

Please set as same as "3-2. CUE REC Level Adj." condition.

1. Play back the alignment tape and measure level at TP1002 (take memo).
2. Make self record and play back, and adjust VR1002 so that play back level becomes within specification for previous step 1 level.

After completed this adjustment make sure Dolby set to ON mode by PC-EVR.

5. CAMERA

All camera adjustment items using the PC-EVR.

Lighting set up: 3200K, 2000Lux

5-1. V SUB Adjustment

Select "1. VSUB_CUR_ADJUSTMENT".

SETTING	IRIS: AUTO GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
CHART	Gray Scale
M.EQ	- - -

Press **F5 (Mode)** key and set mode to [**All Steps**] and press Enter key, then automatically set the fixed data into EEPROM.

✓ Make sure selected top line on adjustment item on screen.

* After completed this adjustment, press **F1 (File)** and select **HD Read**.

5-2. GAIN 0dB Adjustment

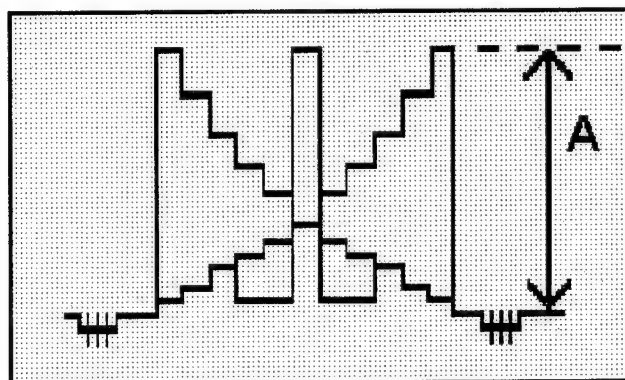
Select "2. CAMERA_GAIN_ADJUSTMENT" for all Gain adjustments (item No. 5-2 to 5-6).

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
TEST	P6603 Pin 4 : AGC out (R) P6603 Pin 1 : GND
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Oscilloscope, Vector Scope

Press **F5 (Mode)** key and set mode to [**1 Step**] and press Enter key.

✓ Make sure selected top line of adjustment menu. [1. CAMERA_GAIN(0dB)]

1. Perform Line No.1 "ADin_R=160" to Line No.7 "AGCmin_R=0".
2. Adjust IRIS on the Lens so that Level (A) of P6603 pin 4 (AGC R) becomes 250mV.
3. Select "AGCmin_G=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
4. Select "AGCmin_B=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
5. Repeat above 3 and 4, then press ESC key to next step.



5-3. GAIN 18dB Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [10. CAMERA_GAIN(18dB)]

1. Select "AGCmax_18G=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
2. Select "AGCmax_18B=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-4. GAIN 12dB Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [14. CAMERA_GAIN(12dB)]

1. Select "AGCmax_12G=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
2. Select "AGCmax_12B=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-5. GAIN 9dB Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [17. CAMERA_GAIN(9dB)]

1. Select "AGCmax_9G=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
2. Select "AGCmax_9B=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
3. Repeat above 1 and 2, then press ESC key to next step.

5-6. GAIN 6dB Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [20. CAMERA_GAIN(6dB)]

1. Select "AGCmax_6G=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
2. Select "AGCmax_6B=" and adjust the dot is at center of the vector scope by ↑ ↓ key.
3. Repeat above 1 and 2, and perform Line No.23 "SYNC" then press ESC key and select STOP to EXIT.

5-7. WB PRE-SET Adjustment (Indoor)

Select "3. WB_PRE-SET_ADJUSTMENT" for all Gain adjustments (item No. 5-7 to 5-8).

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

✓ Make sure selected line of adjustment menu. [1. WB_PRE-SET_ADJUSTMENT(INDOOR)]

1. Perform Line No. 1 to 3 "AWB_R=0X50, AWB_B=0X70" and confirm the dot is at center of the vector scope.
2. Select "AWB=indoorset" and adjustment performed automatically.

5-8. WB PRE-SET Adjustment (Outdoor)

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

✓ Make sure selected line of adjustment menu. [5. WB_PRE-SET_ADJUSTMENT(OUTDOOR)]

1. Put the CC filter (VFK1347 : LB120) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=outdoorset" and adjustment performed automatically.

5-9. ATW WB Adjustment (3100K)

Select "3. ATW:WB_ADJUSTMENT" for all Gain adjustments (item No. 5-9 to 5-10).

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [1. ATW:WB_ADJUSTMENT(3100K)]

1. Make sure no filter on the Lens.
2. Select "AWB_R=0X50, AWB_B=0X70" line and confirm the dot is at center of the vector scope.
3. Select "AWB=3100set" and adjustment performed automatically.

5-10. ATW WB Adjustment (5100K)

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	Vector Scope

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [4. ATW:WB_ADJUSTMENT(5100K)]

1. Put the CC filter (VFK1347 : LB120) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=5100set" and adjustment performed automatically.

5-11. ATW WHITE BALANCE DATA Confirmation

Select "5. ATW:WB_DATA_ADJUSTMENT" for all Gain adjustments (item No. 5-11 to 5-13).

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	Not Required
CHART	- - -
M.EQ	- - -

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [1. ATW_WB_DATA_CHECK]

Select "ATWADJ=Gaincheck" and perform it, then confirm "OK" display appear on the Screen. If appear "NG", re-adjust Item 5-9 and 5-10 again.

5-12. ATW WB Data Setting (3100K)

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [2. ATW_WB_DATA_SETTING(3100K)]

1. Make sure no filter on front of the Lens.
2. Select "ATWADJ=3100ATW" and adjustment performed automatically.

5-13. ATW WB Data Setting (5100K)

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [3. ATW_WB_DATA_SETTING(5100K)]

1. Put the CC filter (VFK1347 : LB120) on front of the Lens.
2. Select "ATWADJ=5100ATW" and adjustment performed automatically.

5-14. ATW Tracking Data Setting

Select "6. ATW:SENSOR_ADJUSTMENT" for adjustments item No. 5-14 to 5-22.

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	Not Required
CHART	---
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [1. ATW_TRACKING_SETTING]

1. Select "ATWADJ=Tracking" and adjustment performed automatically.

After this adjustment, the Power OFF/ON of the unit.

5-15. ATW SENSOR OFFSET Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [2. ATW:SENSOR_OFFSET_SETTING]

1. Make sure no filter on front of the Lens.
2. Select "ATWADJ=Sensor_OFFset" and adjustment performed automatically.

5-16. ATW SENSOR NORMALIZE Data Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [3. ATW:SENSOR_DATA_NORMALIZE]

1. Put the CC filter (VFK1347 : LB120) on front of the ATW Sensor.
2. Select "ATWADJ=Sensor_Normalize" and adjustment performed automatically.

After this adjustment, the Power OFF/ON of the unit.

5-17. ATW SENSOR DATA Confirmation

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB120 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [4. ATW:SENSOR_CHECK]

1. Put the CC filter (VFK1347 : LB120) on front of the ATW Sensor.
2. Select "ATWADJ=SensorCheck" and perform it, then confirm "OK" display appear on the Screen. If appear "NG", re-adjust Item 5-12 to 5-16 again.

5-18. Warm White Balance Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LA40 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [5. ATW:WARM_WHITE_BALANCE_SETTING]

1. Put the CC filter (VFK : LA40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=WWset" and adjustment performed automatically.

5-19. Cool White Balance Adjustment

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB40 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [7. ATW:COOL_WHITE_BALANCE_SETTING]

1. Put the CC filter (VFK1341 : LB40) on front of the Lens.
2. Select "AWB=setting" and automatically adjust white balance and confirm the dot is at center of the vector scope.
3. Select "AWB=CWset" and adjustment performed automatically.

5-20. Warm White Balance Data Setting

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LA40 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [9. ATW:WARM_WHITE_BALANCE_DATA]

1. Put the CC filter (VFK : LA40) on front of the Lens.
2. Select "AWBADJ=WWATW" and adjustment performed automatically.

5-21. Cool White Balance Data Setting

SETTING	IRIS: MANUAL GAIN: 0 Db AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	3200K Halogen + LB40 Filter
CHART	Gray Scale
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [10. ATW:COOL_WHITE_BALANCE_DATA]

1. Put the CC filter (VFK1341 : LB40) on front of the Lens.
2. Select "AWBADJ=CWATW" and adjustment performed automatically.

5-22. Normal White Balance Data Setting

SETTING	IRIS: MANUAL GAIN: 0 dB AWB: MEM OUTPUT: CAM SHUTTER: OFF
LIGHT	Not Required
CHART	---
M.EQ	---

Press **F5 (Mode)** key and set mode to [1 Step] and press Enter key.

- ✓ Make sure selected line of adjustment menu. [11. ATW:NORMAL_WHITE_BALANCE_DATA]

1. Select "AWB=NWset" and adjustment performed automatically.

CCD Replacement Procedures

Perform the following steps for the CCD replacement and adjustment.

1. Remove the both side panels.
2. Disconnect P6601, P6602 and P6605, unscrew 3 screws (A) on the TEST Connection C.B.A. (Fig. CCD1)
3. Disconnect P7 on the component side of the VTR MAIN C.B.A. and open this board then disconnect P1 on back side of this C.B.A.
4. Unscrews (B) on Front panel and carefully pull the Front panel unit with camera block out to front direction. (Fig. CCD2)
5. Unscrews 3 screws (C) on the shield case of CCD unit and remove the shield case. (Fig. CCD3)
6. Disconnect PP101 on the Sensor C.B.A. (Fig. CCD4)
7. Unscrew 3 screws (E) on CCD mount base and carefully remove CCD Prism unit from front panel. (Fig. CCD5)
8. Replace the new CCD Prism unit and follows reverse way to above steps.

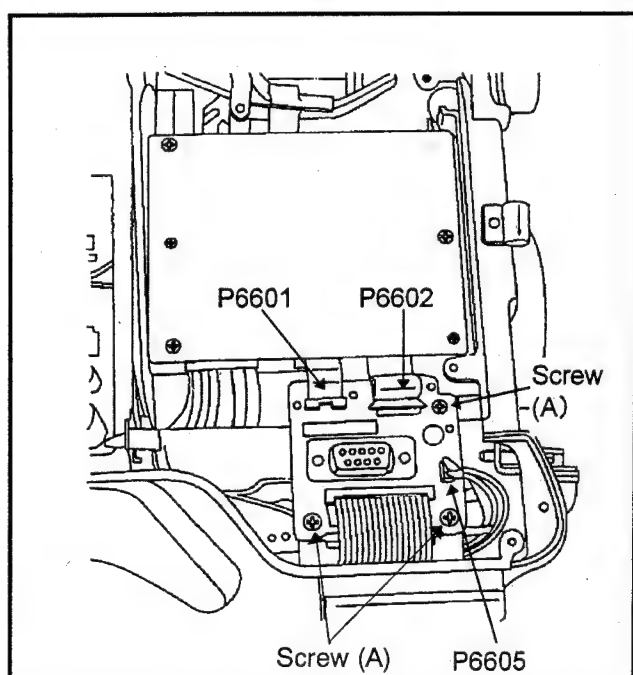


Fig. CCD1

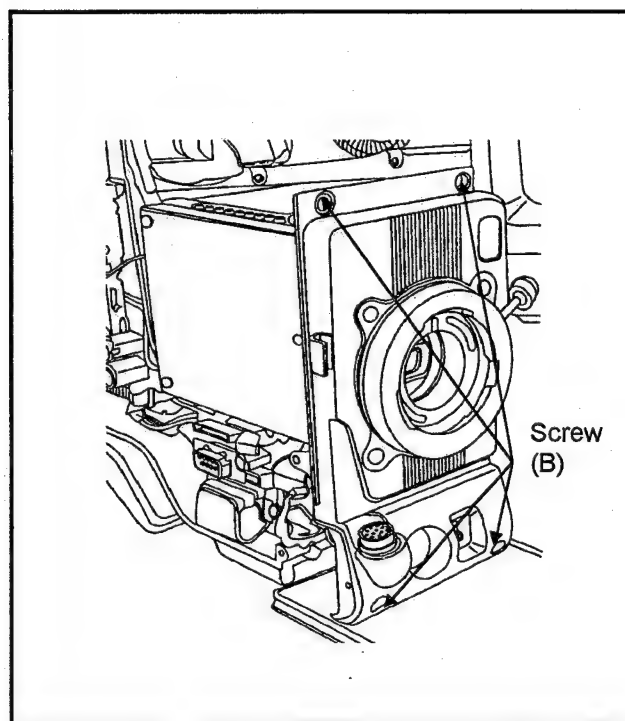


Fig. CCD2

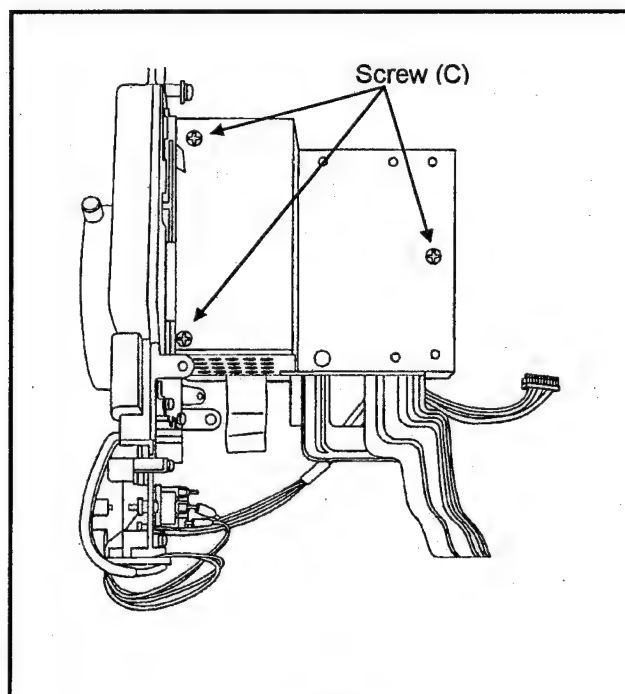


Fig. CCD3

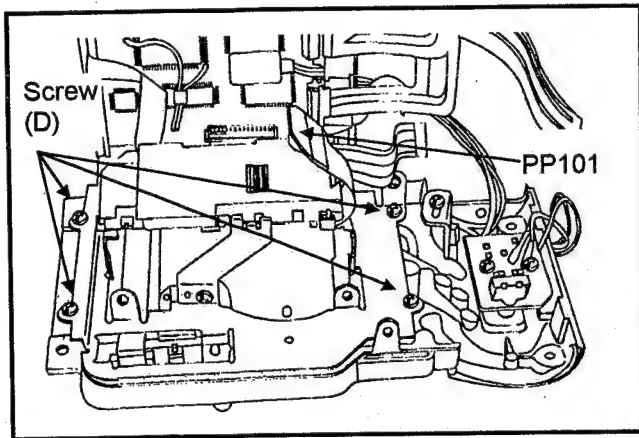


Fig. CCD4

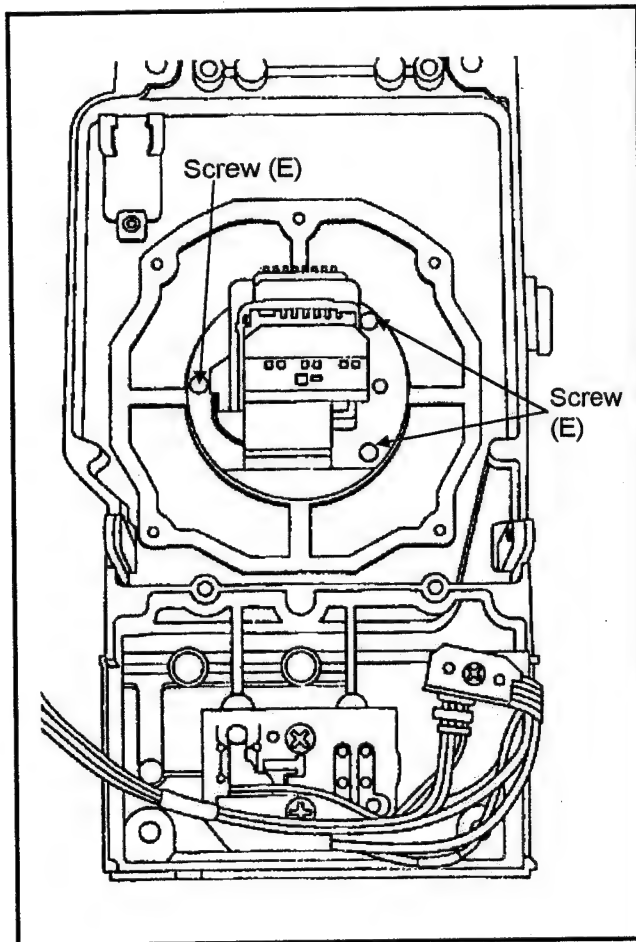
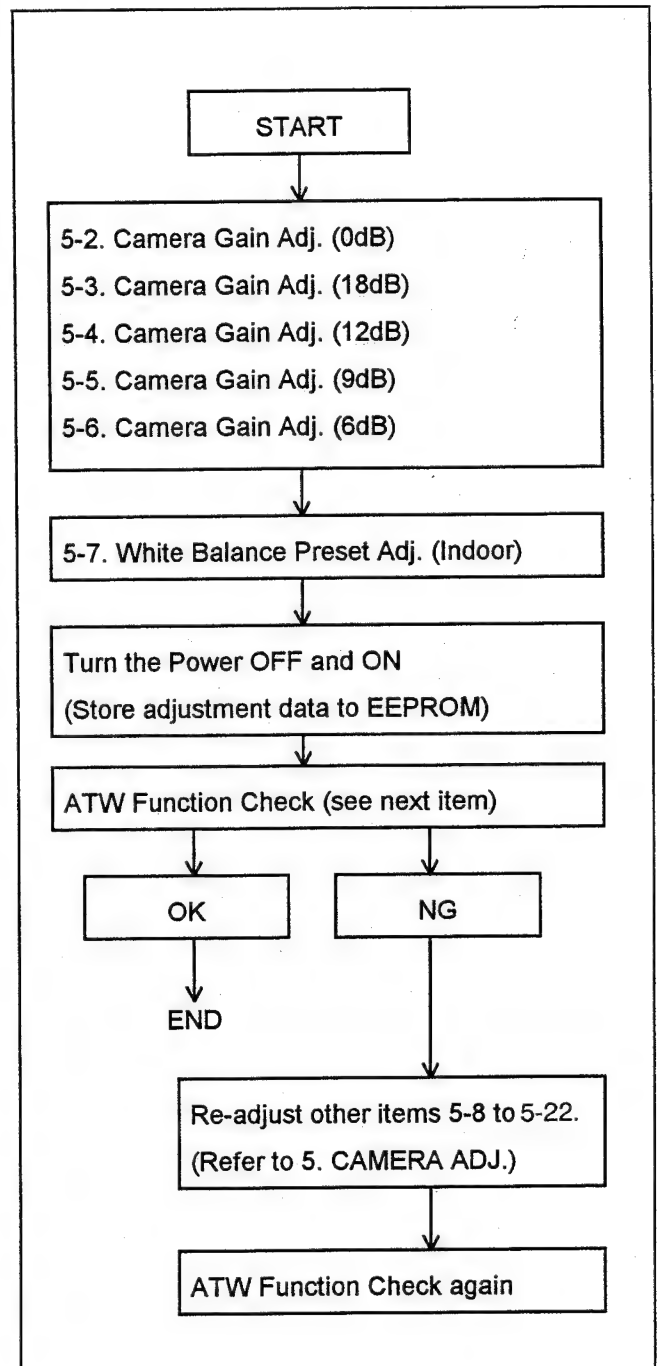


Fig. CCD5

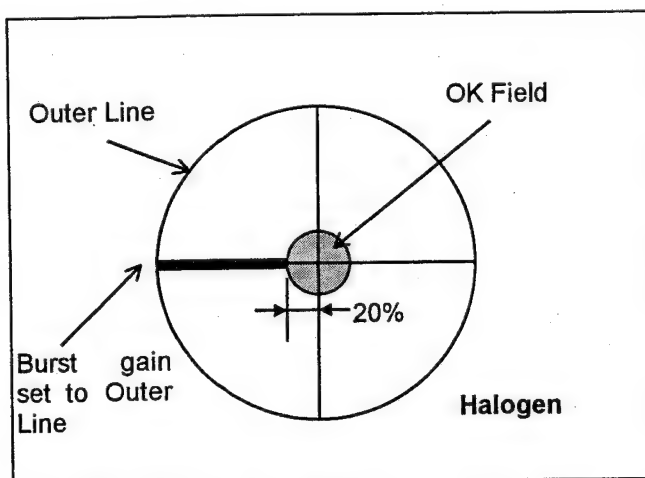
<<Adjustment Flow Chart after install new CCD unit>>



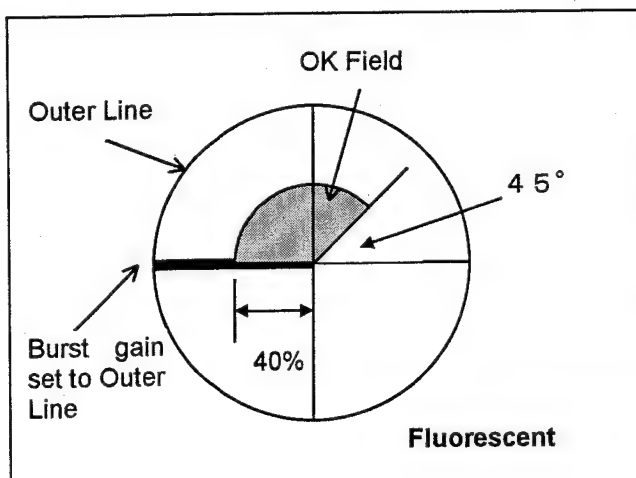
<< ATW Function Check >>

SETTING	IRIS: AUTO GAIN: 0 dB AWB: ATW OUTPUT: CAM SHUTTER: OFF
TEST	VIDEO out
CHART	Gray Scale
M.EQ	Vector Scope

1. The AWB switch on the side panel set to "ATW" mode.
1. Confirm the dot is at OK field of the vector scope as shown in below Figure under the Halogen Lamp condition.



2. Turn OFF the Halogen Lamp and lighting condition is Fluorescent Lamp.
3. Confirm the dot is at OK field of the vector scope as shown in below Figure.



6. ELECTRICAL VIEWFINDER

6-1. Preparation

1. Remove the top case of the EVF.
2. Connect the EVF to the main unit.
3. Supply an external DC to the external Dc input of the main unit.

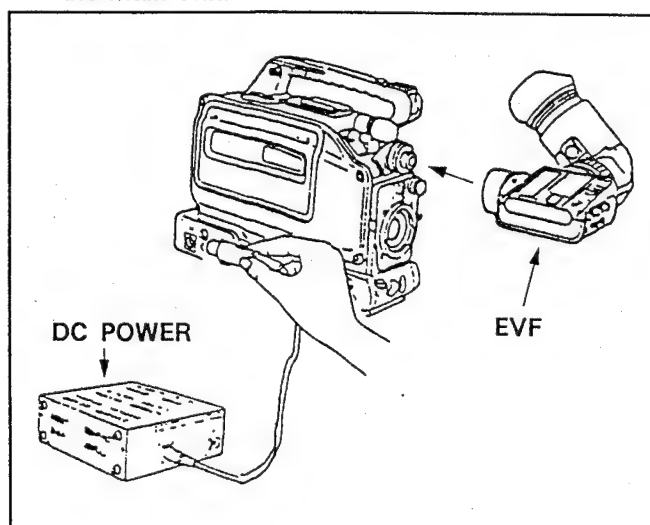


Figure F1.

6-2. Setting of the Controls for Adjustment

Unless otherwise specified, set the controls as shown below.

- PEAKING VR : 12 O'clock position
- CONTRAST VR : 12 O'clock position
- BRIGHT VR : 12 O'clock position
- CHARACTER SW : OFF
- ZEBRA SW : OFF
- TALLY SW : OFF
- IRIS SW : OFF
- OUTPUT (CAM/BAR) SW : M (Manual)
- CAM/BAR SW : CAM

6-3. Power Supply Voltage Adjustment

BOARD	V DEF
TP	TP7001
ADJ.	VR7001
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	D.V.M.
SPEC.	8.6V \pm 0.005V DC

1. Adjust the EVF controls as follows.
 - BRIGHT VR : Minimum (fully CCW) position
 - CONTRAST VR : Minimum (fully CCW) position
2. Connect the D.V.M. to TP7001 and adjust VR7001 so that the voltage is 8.6V \pm 0.005V.

6-4. H Free Run Frequency Adjustment

BOARD	V DEF
TP	TP7401
ADJ.	VR7002
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	FREQUENCY COUNTER
SPEC.	15.75KHz \pm 0.1KHz (NTSC) 15.625KHz \pm 0.1KHz (PAL)

1. Connect the frequency counter to TP7401 and adjust VR7002 so that the frequency is within the specification.

6-5. V Free Run Frequency Adjustment

BOARD	V DEF
TP	TP7002
ADJ.	VR7006
TAPE	WITHOUT TAPE
INPUT	NO INPUT SIGNAL
MODE	STOP
M.EQ	FREQUENCY COUNTER
SPEC.	50Hz \pm 1Hz (NTSC), 42Hz \pm 1Hz (PAL)

1. Connect the frequency counter to TP7002 and adjust VR7006 so that the frequency is within the specification.

6-6. Deflection Yoke Tilt Adjustment

BOARD	-----
TP	CRT
ADJ.	DEFLECTION YOKE
TAPE	MONOSCOPE OF ALIGNMENT TAPE
INPUT	FROM VTR SECTION
MODE	PLAY
M.EQ	-----
SPEC.	PICTURE IS STRAIGHT ON THE SCREEN

1. Disassemble the CRT unit.
 - 1) Remove the top case. (refer to page 2-8 of the service manual volume 1)
 - 2) Open the H DEF C.B.A. (refer to page 2-8 of the service manual volume 1)
 - 3) Remove the eye piece unit.
 - 4) Disconnect the connectors P7004 on the Front C.B.A., P7014 on the V DEF C.B.A., P7009 on the CN C.B.A. and P7013, P7011 on the H DEF C.B.A. so that the CRT unit can be lifted.
 - 5) Shift the outer lock ring, lock ring spacer and inner lock ring to the cable side as shown in Figure F2.

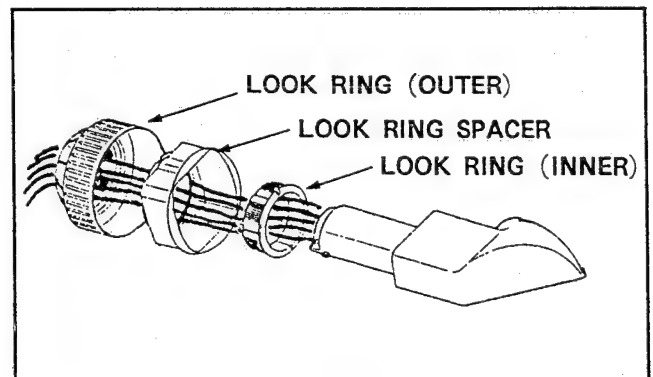


Figure F2

- 6) Unscrew the screws (A) and (B) as shown in Figure F3.

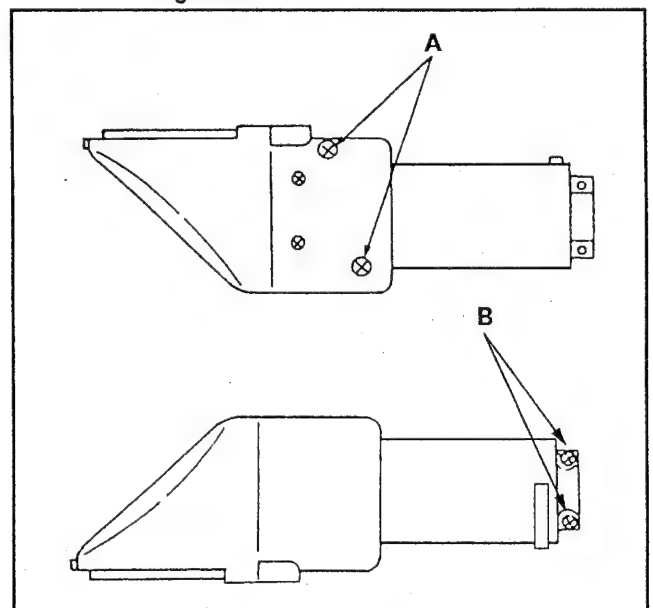


Figure F3.

- 7) Push the portion A as shown in Figure F4 so that the CRT case can be removed.

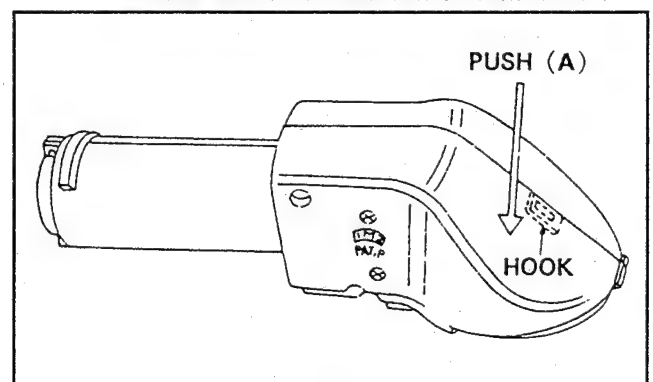


Figure F4

- 8) Connect the all connectors which have been disconnected in step 4).

2. Loosen the clamp band screw holding the deflection yoke as shown in Figure F5.
3. Rotate the deflection coil clockwise or counterclockwise so that the picture is straight on the screen as shown in Figure F6.

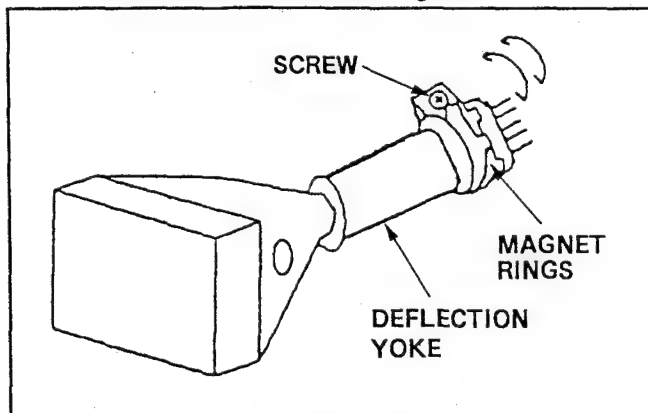


Figure F5.

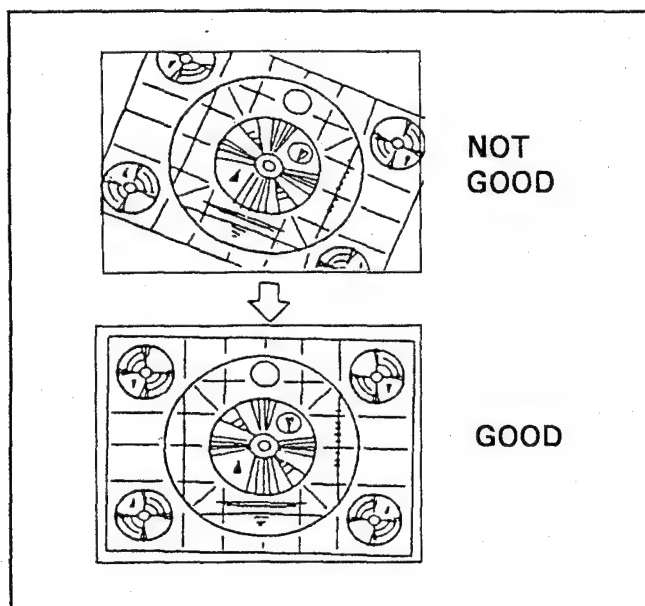


Figure F6.

6-7. Picture Centering Adjustment

BOARD	-----
TP	CRT
ADJ.	CENTERING MAGNETS
TAPE	MONOSCOPE OF ALIGNMENT TAPE
INPUT	FROM VTR SECTION
MODE	PLAY
M.EQ	-----
SPEC.	PICTURE IS IN THE CENTER ON THE SCREEN

1. Disassemble the CRT unit.
(refer to step 1 of 7-4-6. Deflection Yoke Tilt Adj.)

2. Rotate the two centering magnets as shown in Figure F4 to center the picture both vertically horizontally as shown in Figure F8.

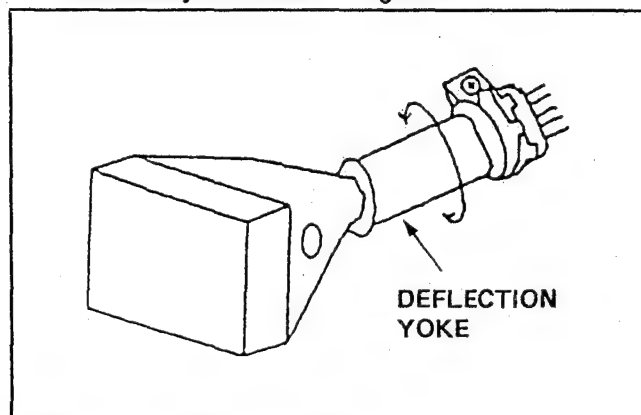


Figure F7.

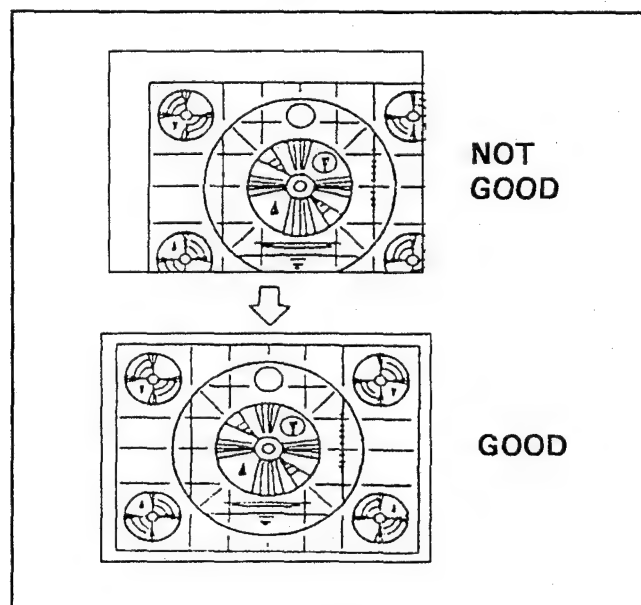


Figure F8.

6-8. Picture Size Adjustment

BOARD	V DEF
TP	SCREEN
ADJ.	VR7004 (V), VR7005 (H)
TAPE	WITHOUT TAPE
INPUT	FROM INTERNAL COLOR BAR
MODE	STOP
M.EQ	-----
SPEC.	H = 0.5mm, V = 0.5mm

1. Set the CAM / BAR switch at the BAR position.
2. Adjust VR7004 (vertical) and VR7005 (horizontal) so that the V width and H width of the picture frame are 0.5mm as shown in Figure F9.

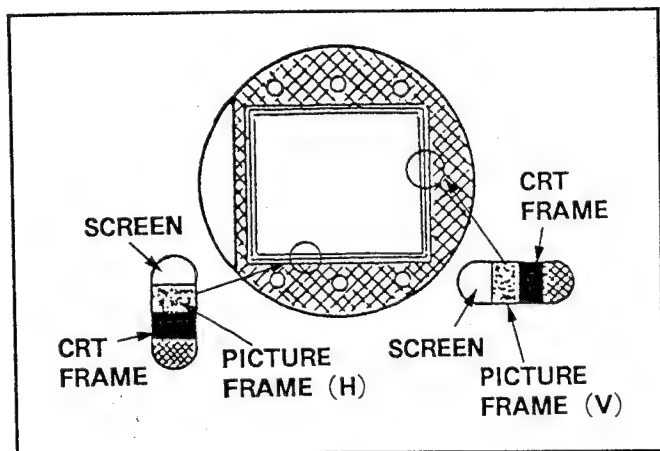


Figure F9.

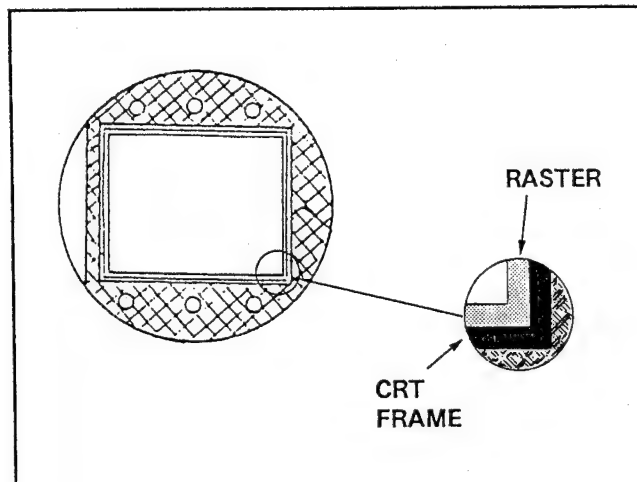


Figure F11.

6-9. Sub Bright Adjustment

BOARD	H DEF
TP	-----
ADJ.	VR7403
TAPE	WITHOUT TAPE
INPUT	FROM CAMERA SECTION
MODE	VTR MODE STOP
M.EQ	OSCILLOSCOPE
SPEC.	RASTER JUST APPEAR

1. Connect the scope to the CAMERA OUT.
2. Place the unit in the CAM (camera) mode and manual iris mode.
3. Aim the camera to a plain white paper and adjust the iris so that the white level is 630mVp-p as shown in Figure F10.
4. Adjust the viewfinder controls as follow.
 - BRIGHT VR : 3 O'clock position
 - CONTRAST VR : Maximum (fully clockwise) position
 - PEAK VR : Minimum (fully counter-clockwise) position
5. Remove the eyepiece from the viewfinder unit.
6. Carefully observe the frame portion of the screen and adjust VR7403 so that the raster is just appeared slightly as shown in Figure F11.

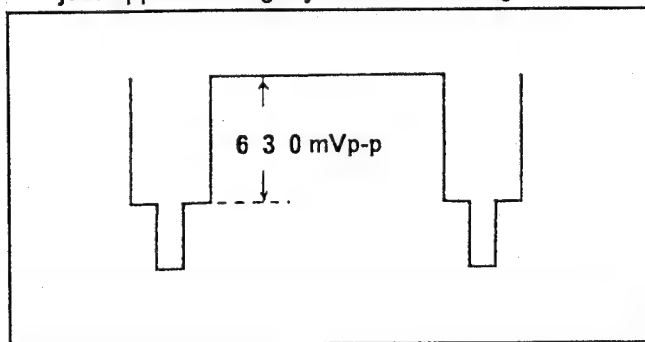


Figure F10.

6-10. Focus Adjustment

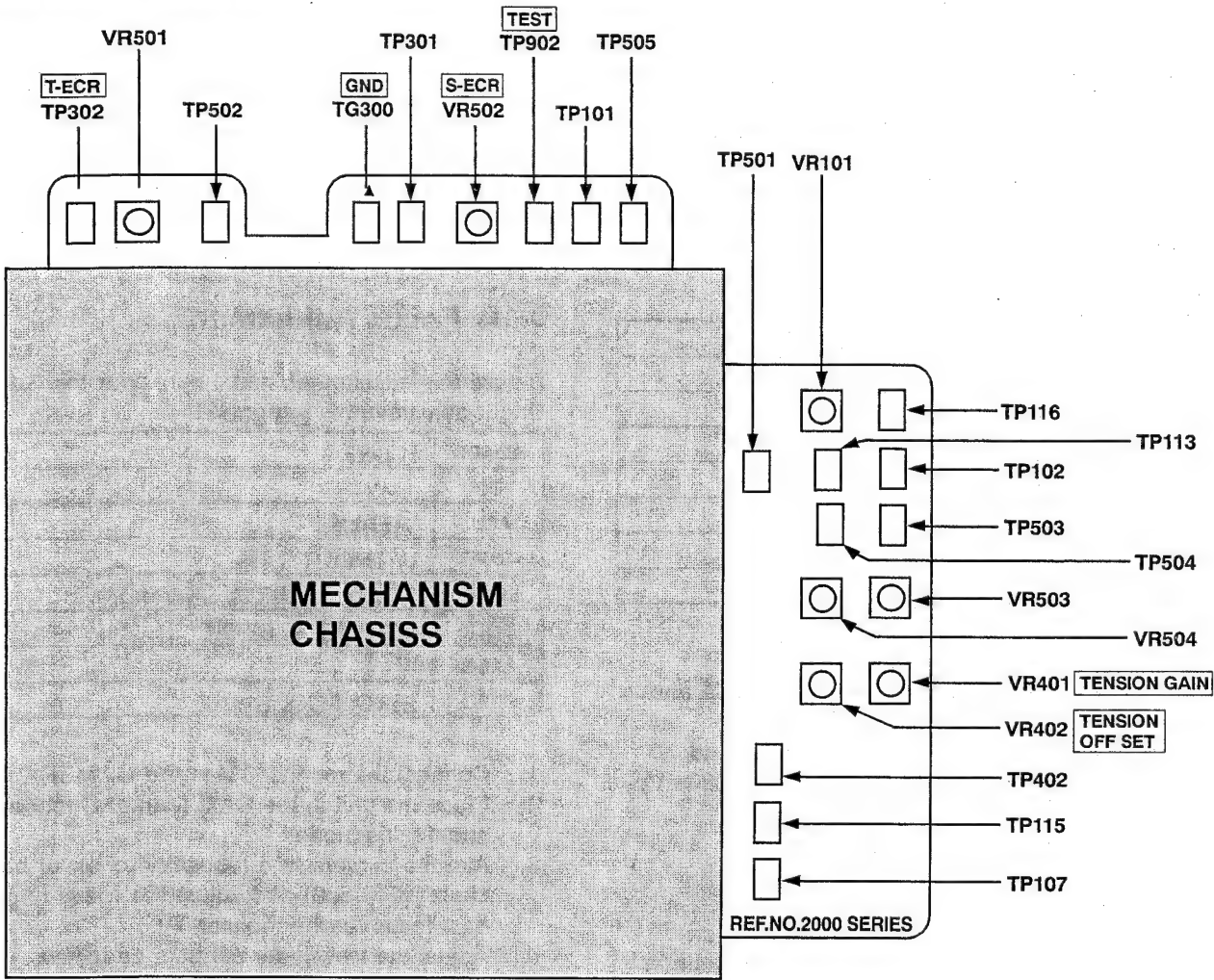
Before this adjustment, make sure that the Sub-Bright adjustment is performed.

BOARD	H DEF
TP	-----
ADJ.	VR7402
TAPE	WITHOUT TAPE
INPUT	FROM CAMERA SECTION
MODE	VTR MODE STOP
M.EQ	-----
SPEC.	BEST FOCUS

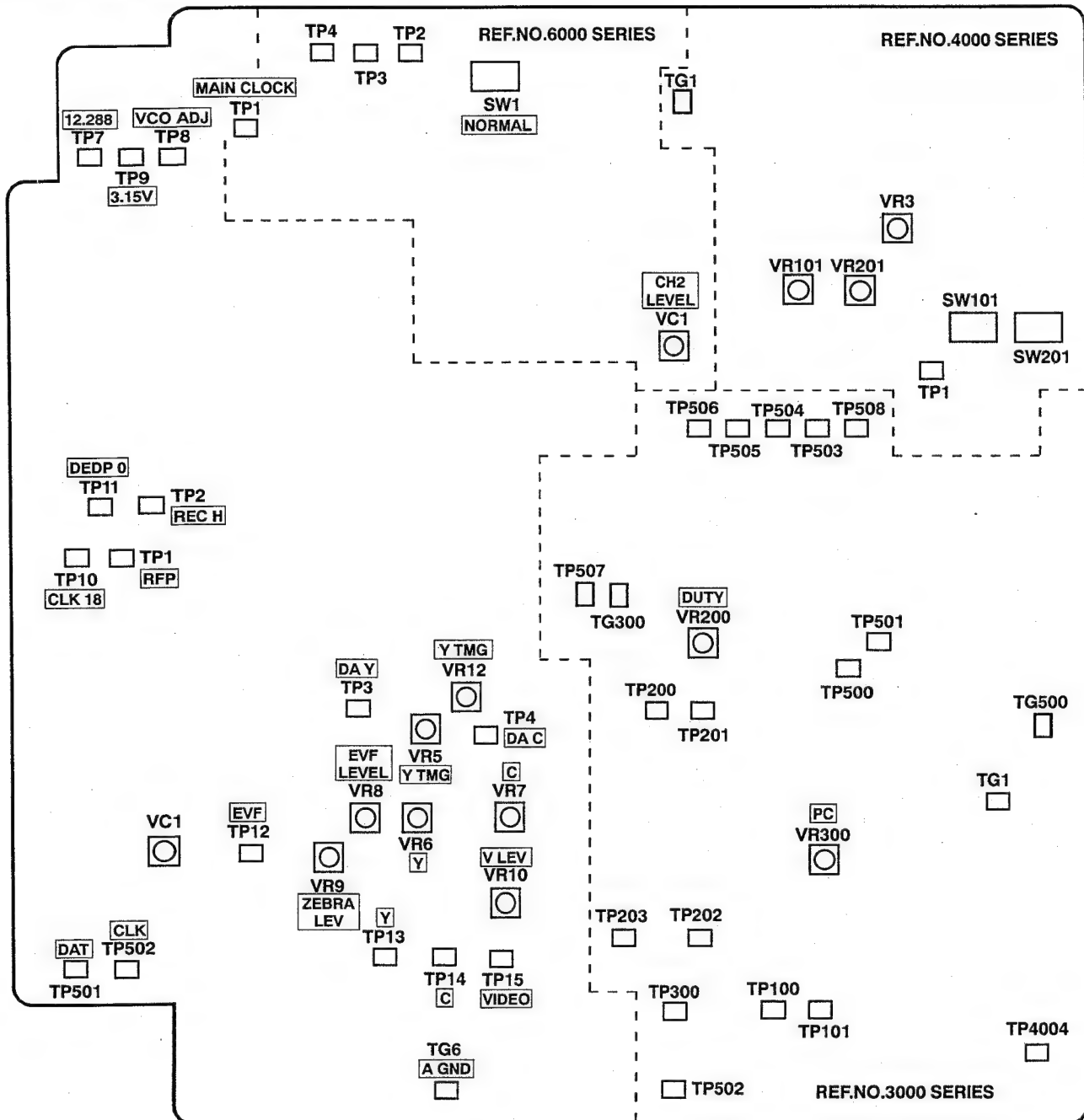
1. Connect the monitor TV to the CAMERA OUT.
2. Place the unit in the CAM (camera) mode and manual iris mode.
3. Aim the camera to a resolution chart or boll chart (VFK0580) and adjust the focus ring to the best focus for the monitor TV.
4. Adjust the viewfinder controls as follow.
 - BRIGHT VR : 12 O'clock position
 - CONTRAST VR : 12 O'clock position
 - PEAK VR : Minimum (fully CCW) position.
5. Carefully observe the picture on the viewfinder and adjust VR7402 so the picture is best focus.

LOCATION OF TEST POINT & CONTROLS

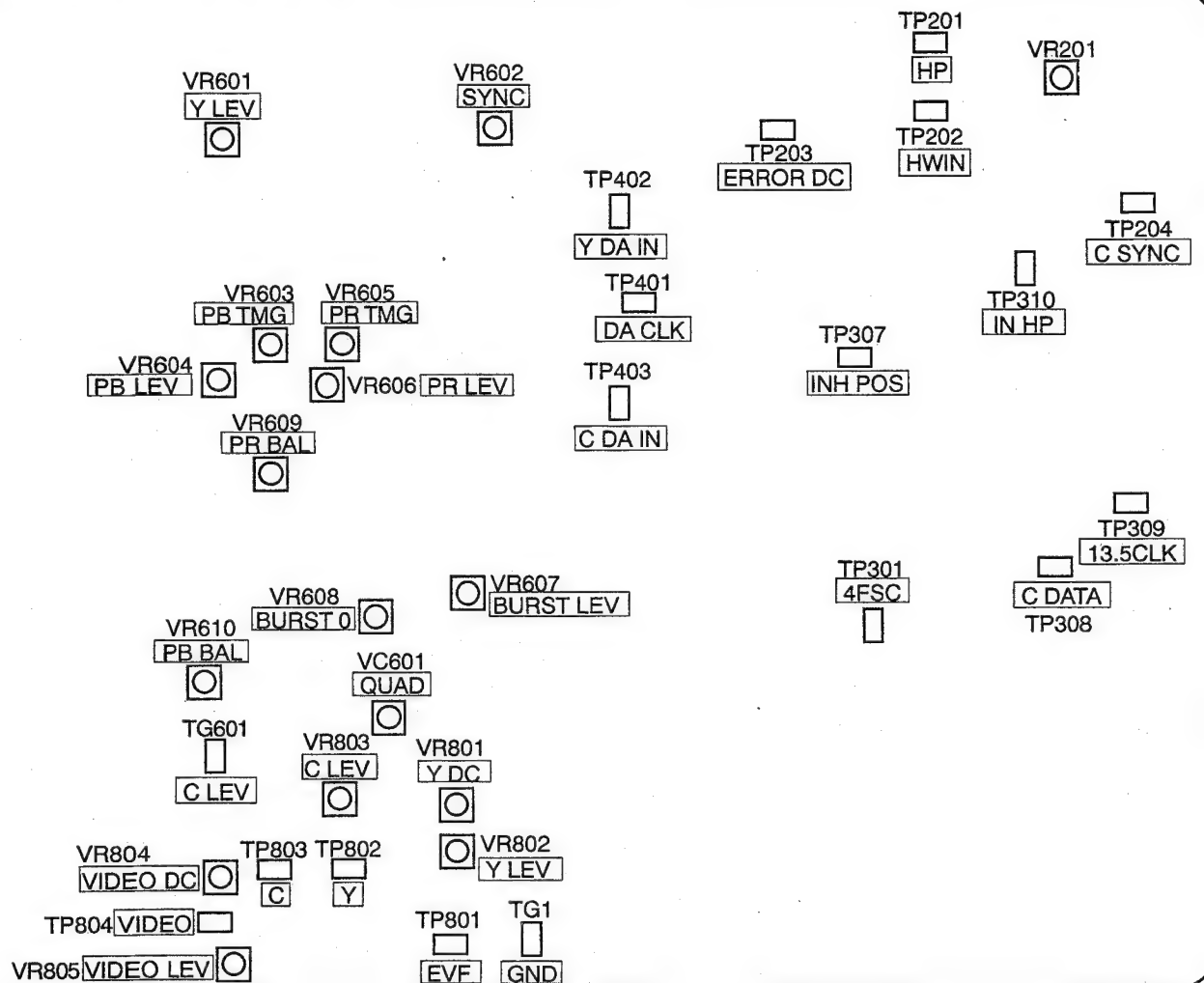
SERVO C.B.A.



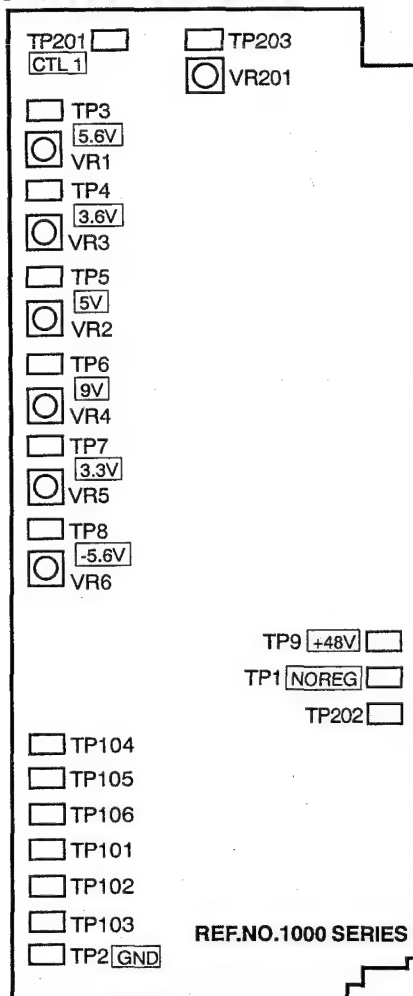
VIDEO MAIN C.B.A.



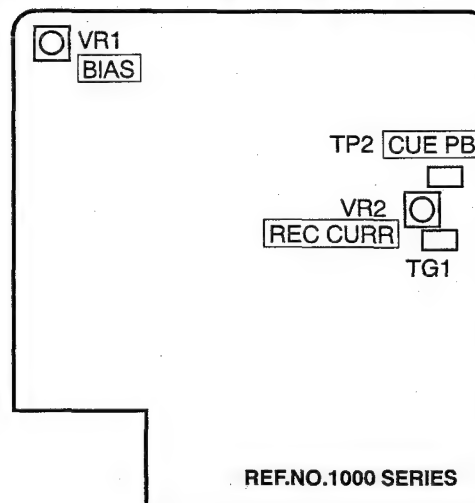
PRE SHUFFLE C.B.A.



POWER C.B.A.



REAR JACK C.B.A.



V DEF C.B.A.

<input type="checkbox"/> VR1 8.6V		
<input type="checkbox"/> VR6 V FREE. FREQ.		<input type="checkbox"/> VR1 PICTURE SIZE H.
<input type="checkbox"/> VR4 PICTURE SIZE V.		
<input type="checkbox"/> VR3		
<input type="checkbox"/> VR2 H FREE. FREQ.	<input type="checkbox"/> TP1	
<input type="checkbox"/> TP2	<input type="checkbox"/> TPG	

REF.NO.7000 SERIES

H DEF C.B.A.

REF.NO.7000 SERIES

TP401 <input type="checkbox"/>		
TPG <input type="checkbox"/>		<input type="checkbox"/> VR403 SUB BR
	<input type="checkbox"/> VR402 FOCUS	

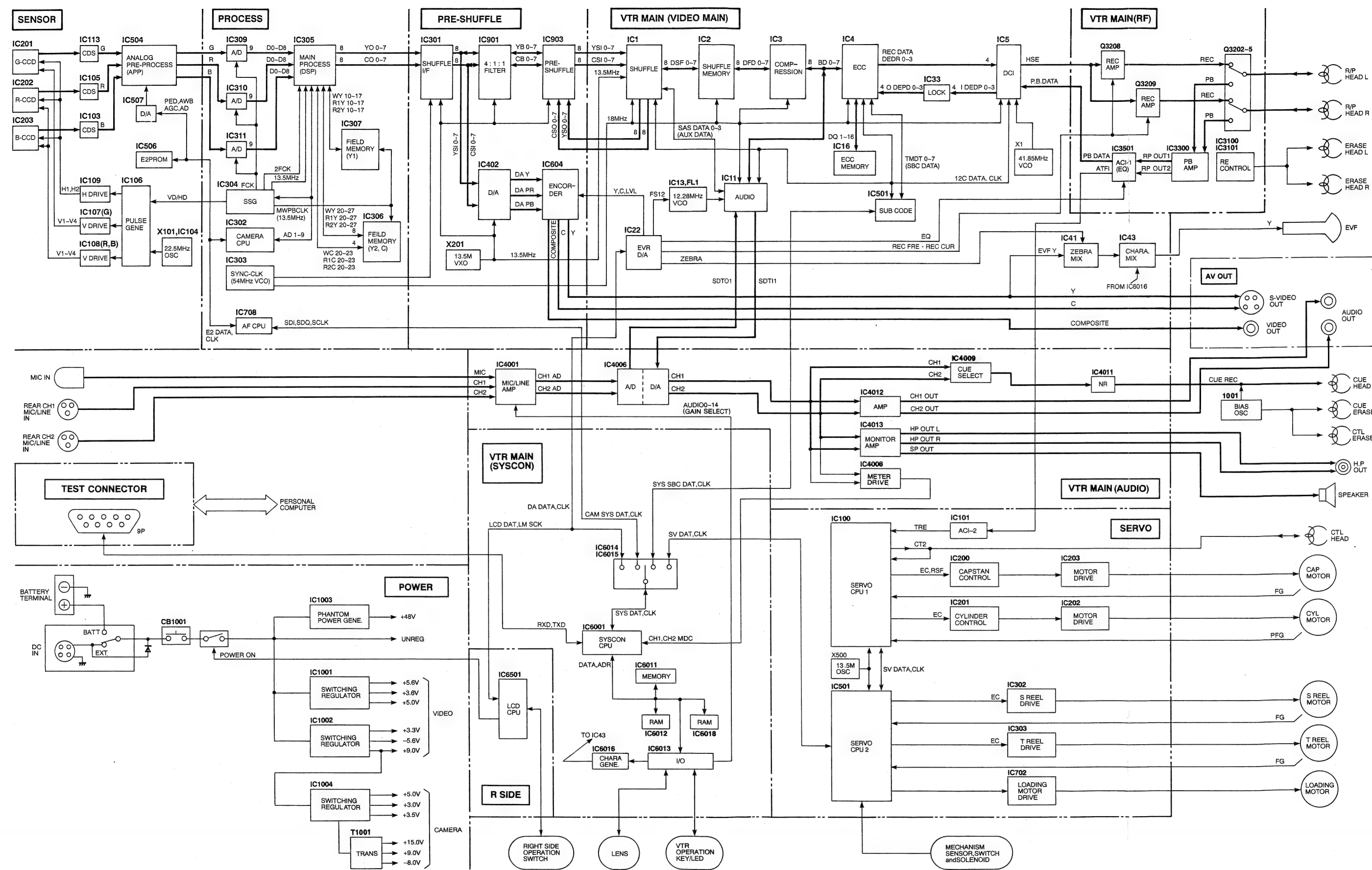
SECTION 5

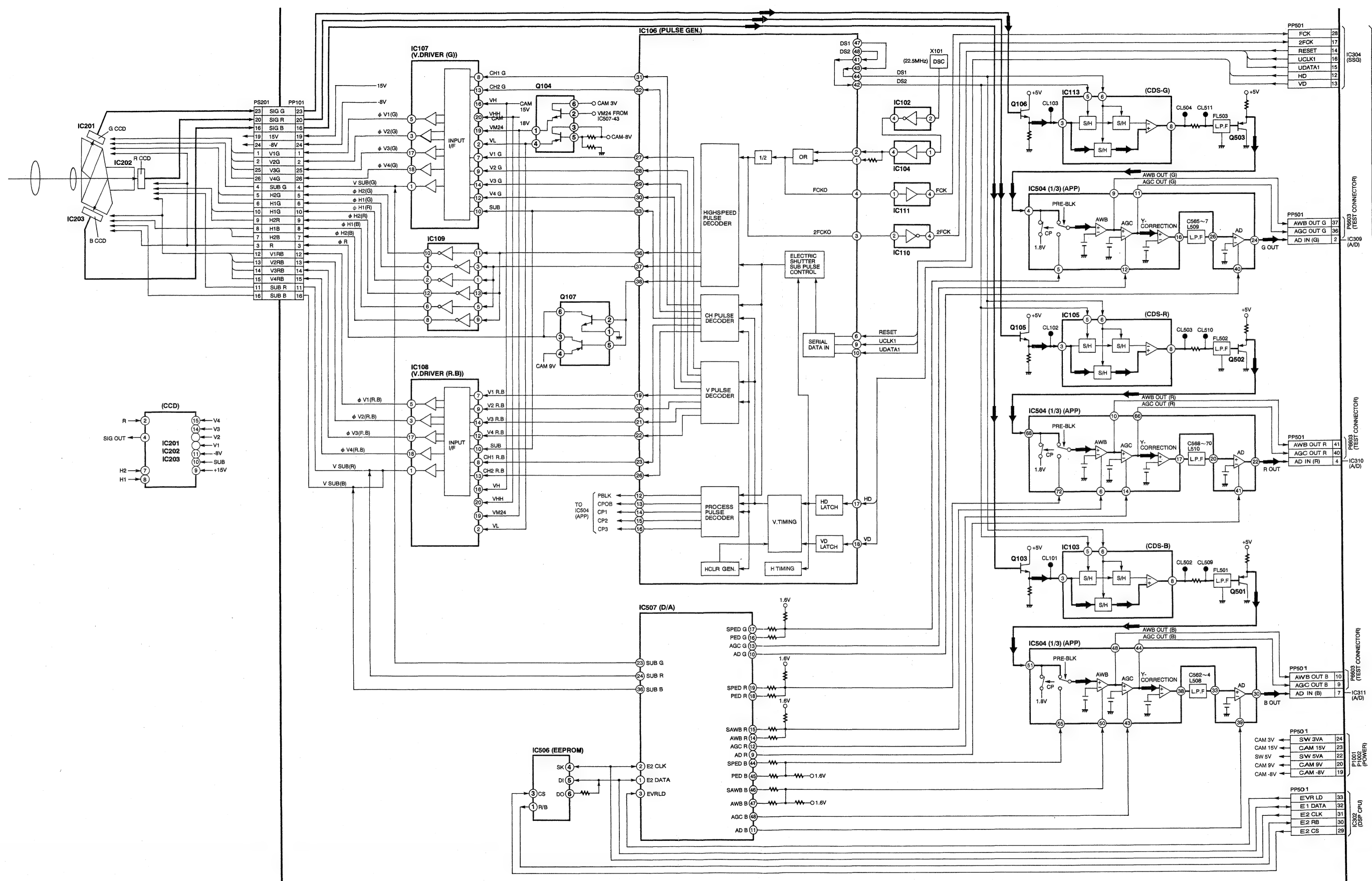
BLOCK DIAGRAMS

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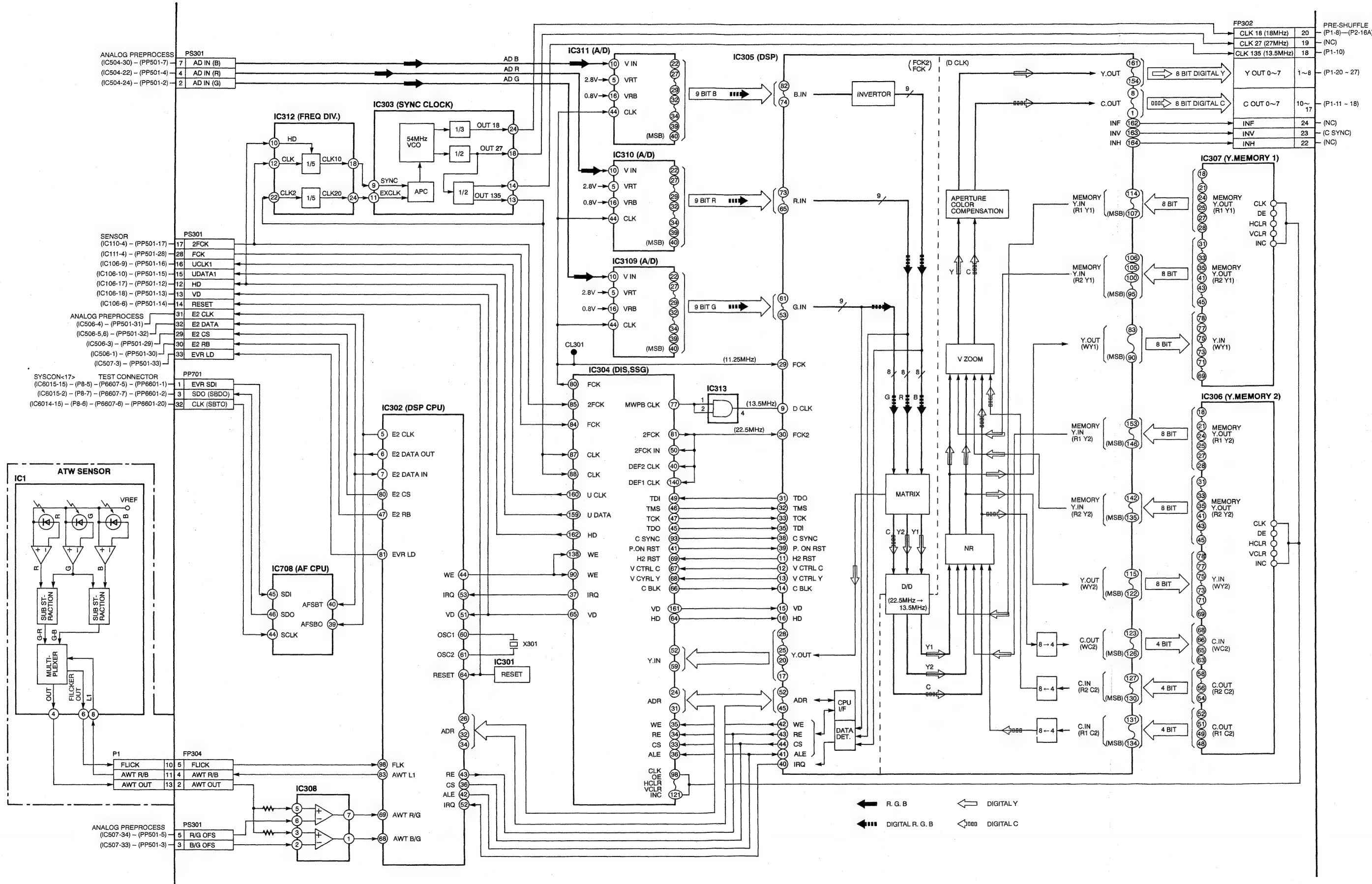
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CCD & SENSOR BLOCK DIAGRAM.....	BLK-3
PROCESS BLOCK DIAGRAM.....	BLK-4
PRE SHUFFLE BLOCK DIAGRAM	BLK-5
VIDEO MAIN BLOCK DIAGRAM	BLK-6
RF BLOCK DIAGRAM	BLK-7
AUDIO & REAR JACK BLOCK DIAGRAM	BLK-8
SYSTEM CONTROL & R SIDE BLOCK DIAGRAM	BLK-9
SERVO CONTROL BLOCK DIAGRAM	BLK-10

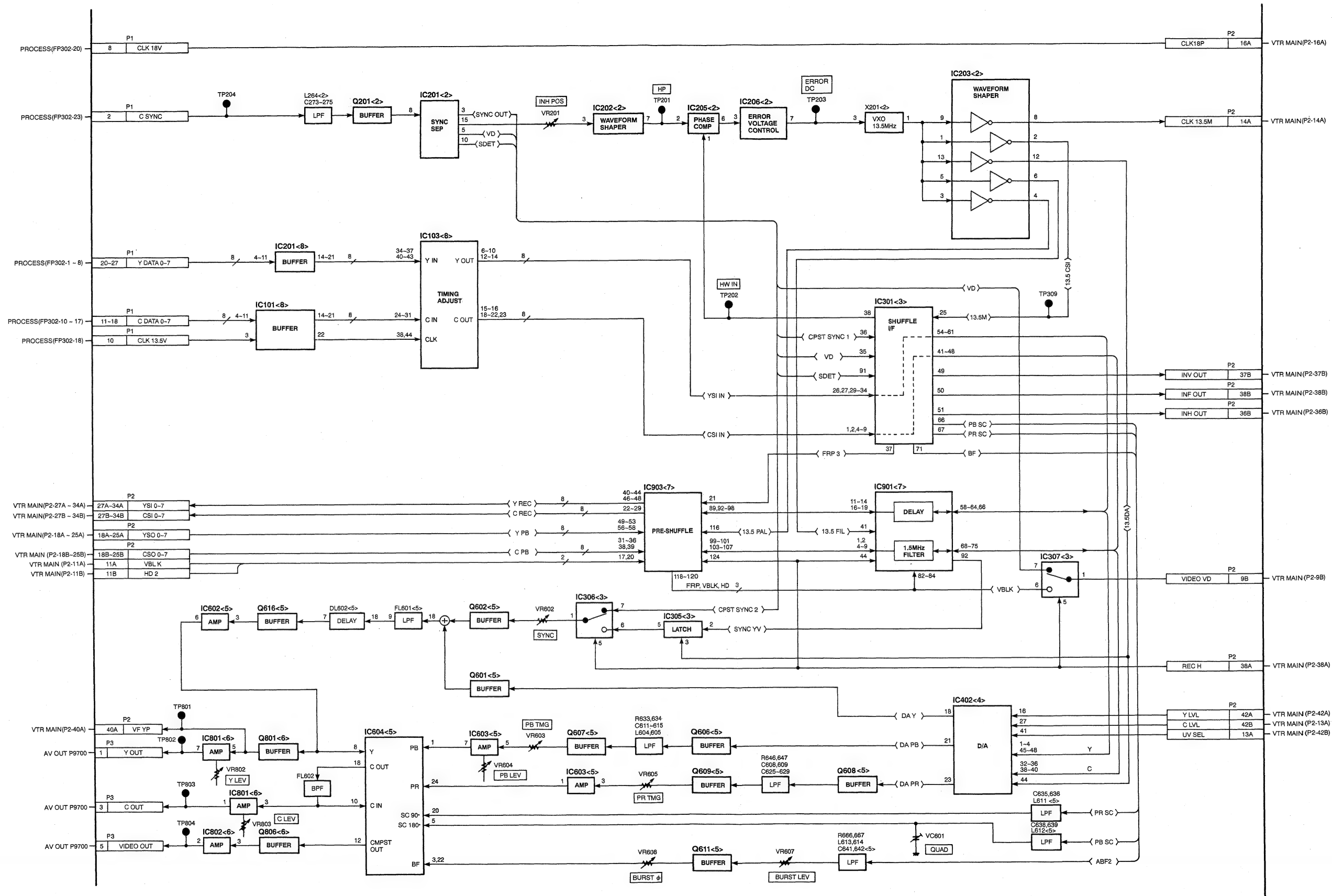
OVERALL BLOCK DIAGRAM



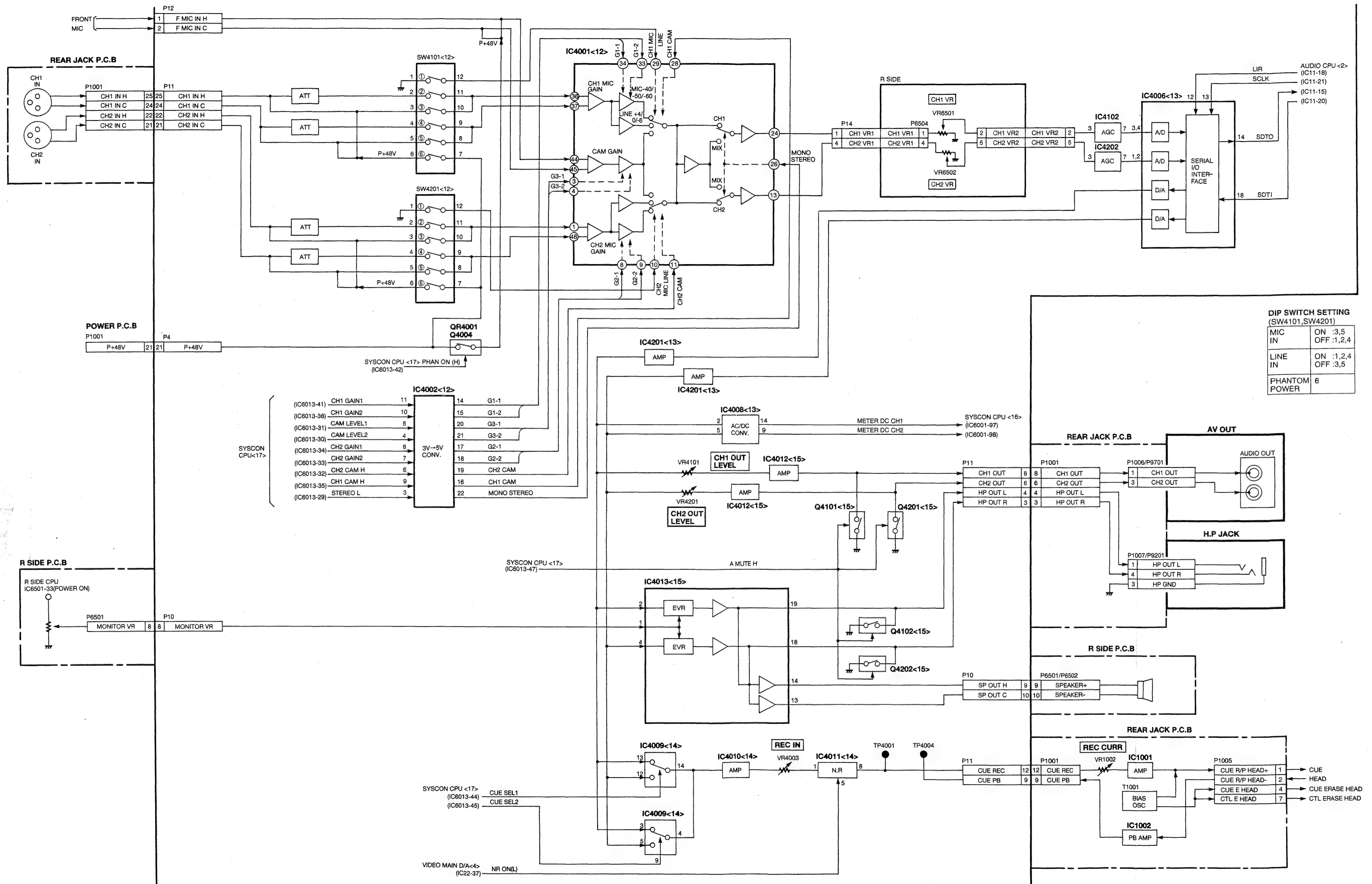
BLK-3

PROCESS BLOCK DIAGRAM

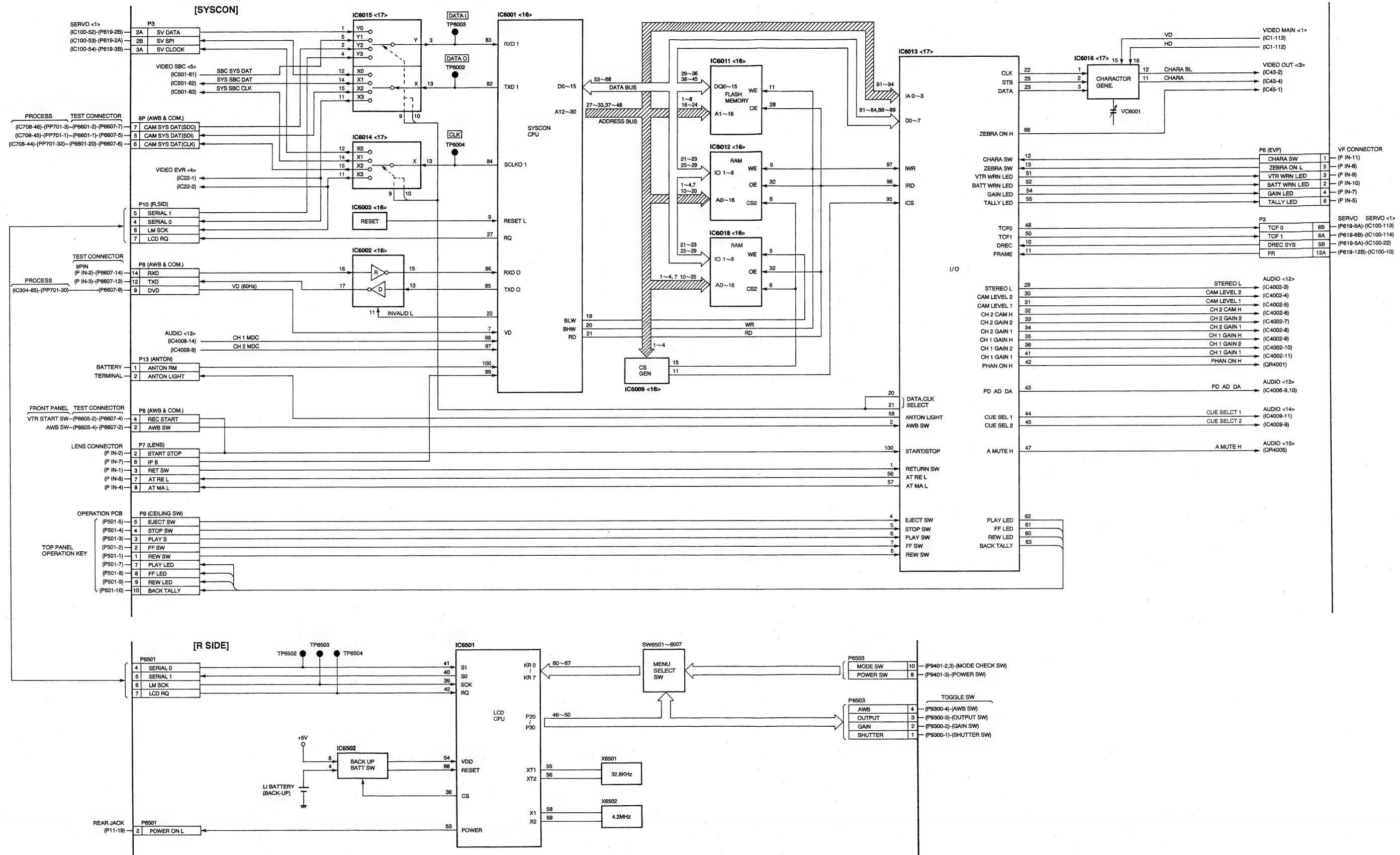


BLK-5

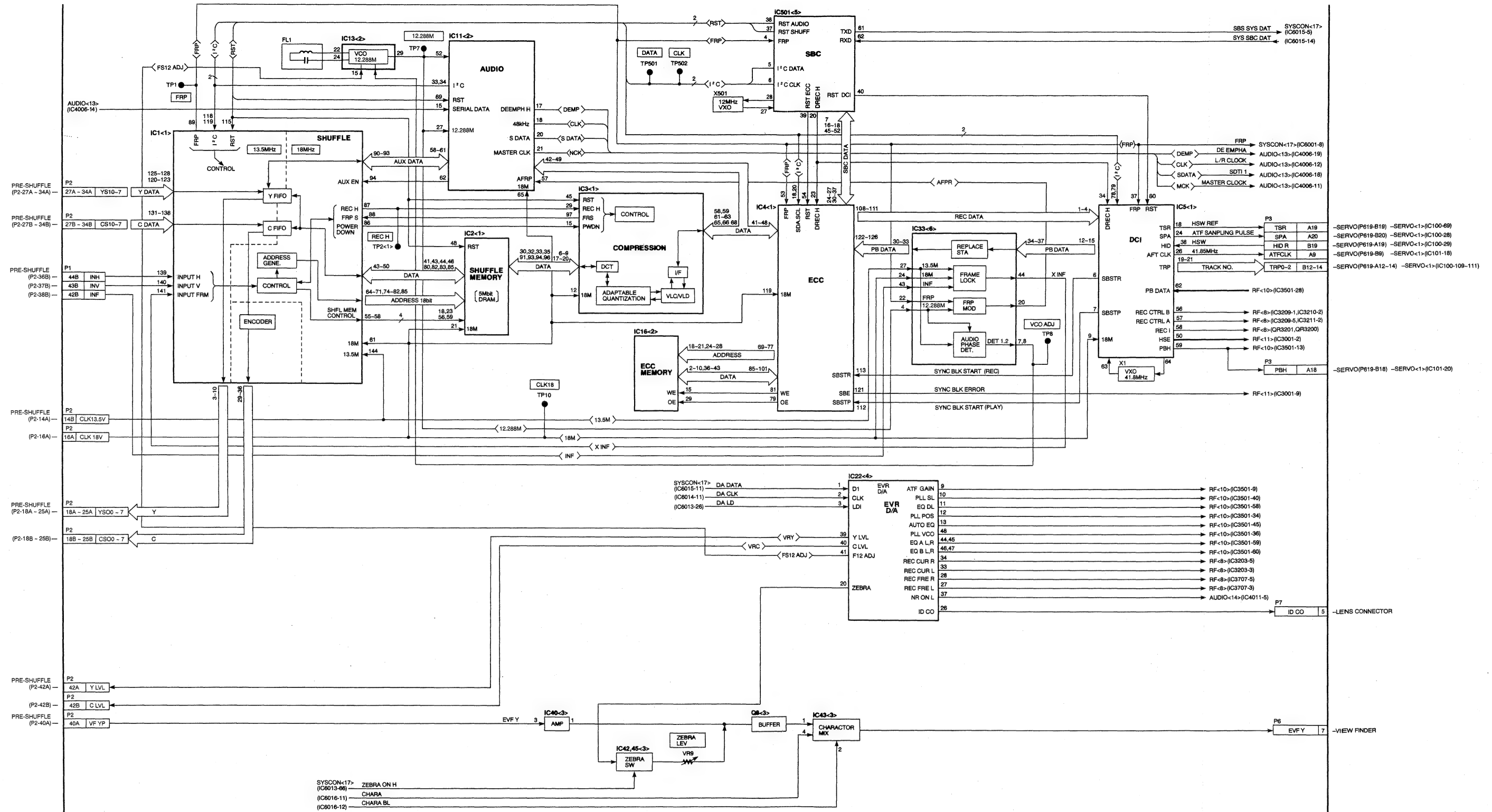
AUDIO & REAR JACK BLOCK DIAGRAM

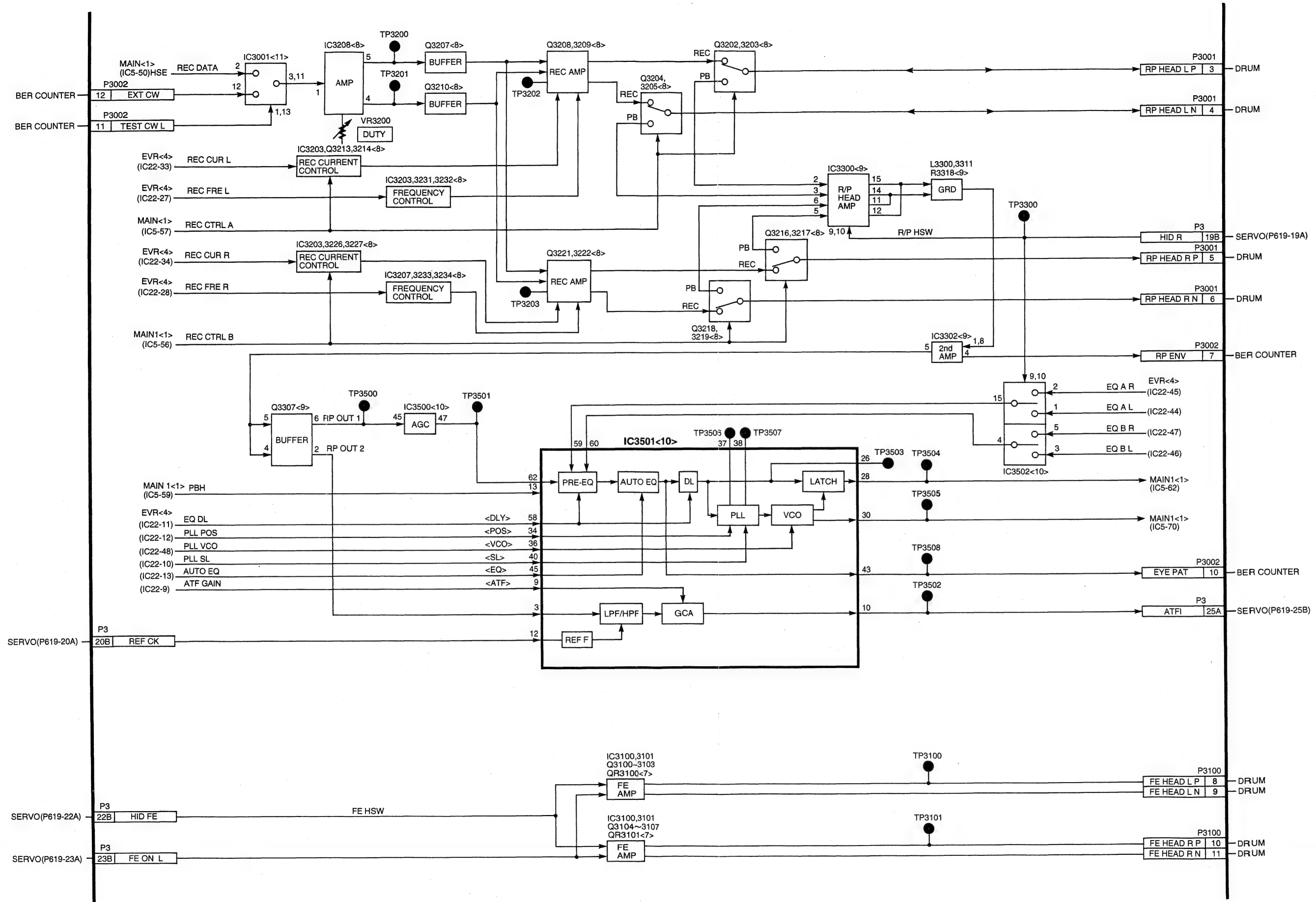


BLK-9

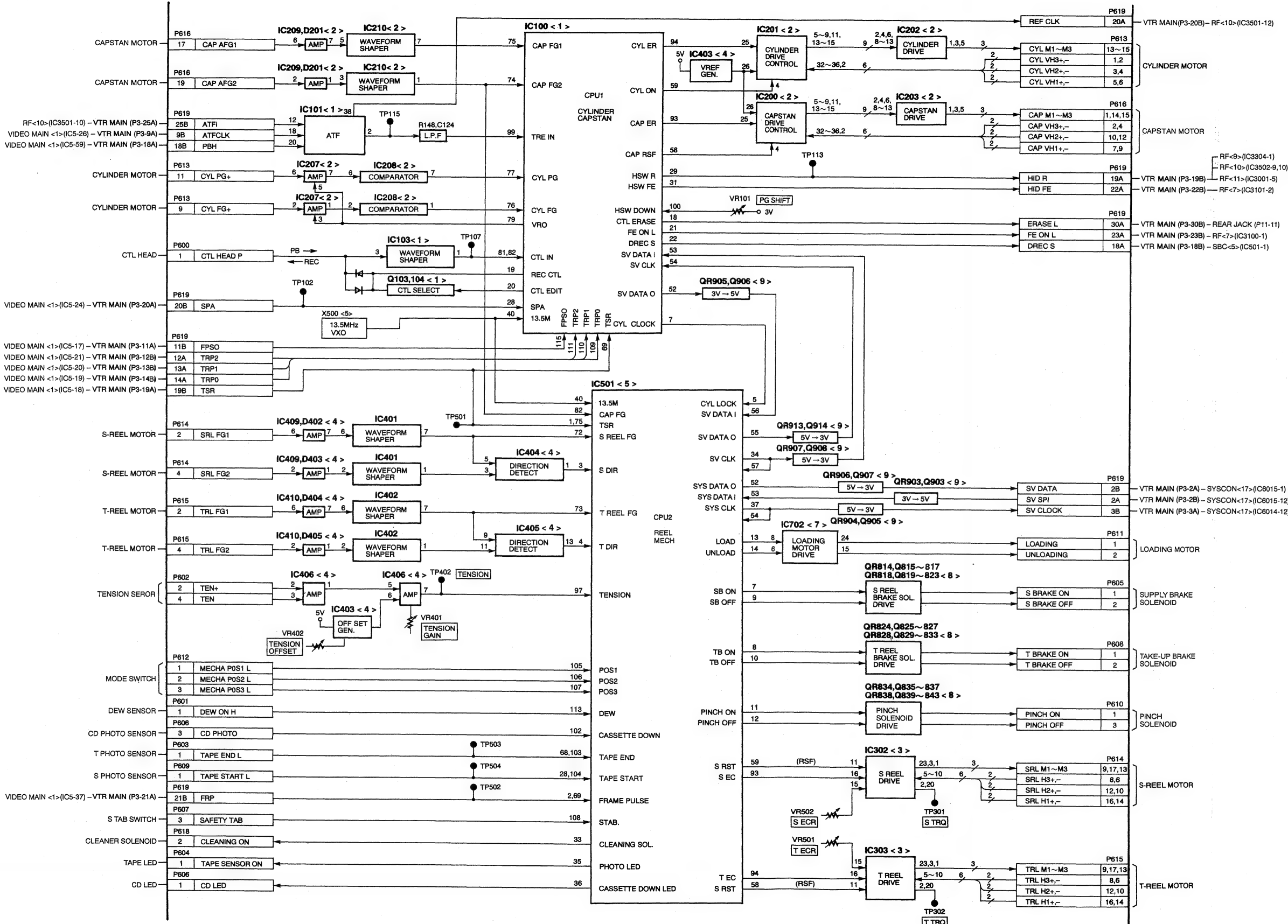


VIDEO MAIN BLOCK DIAGRAM



BLK-7

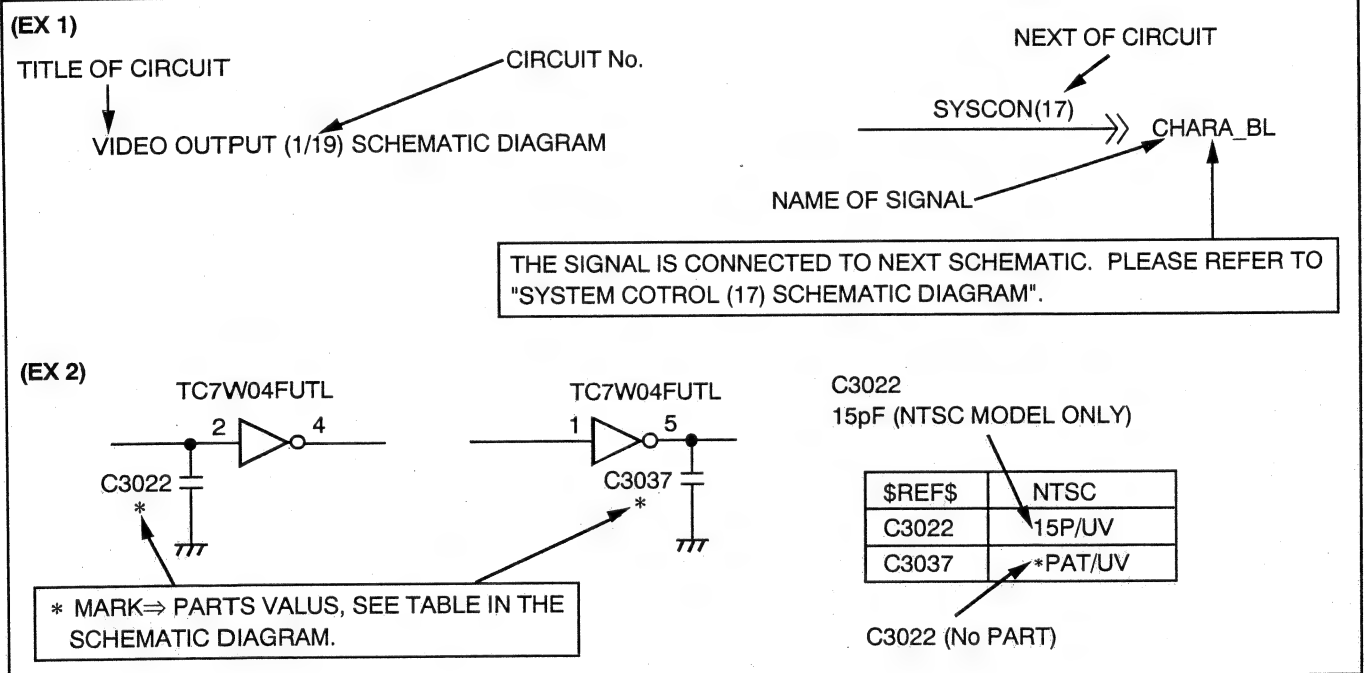
SERVO CONTROL BLOCK DIAGRAM



SECTION 6

SCHEMATIC DIAGRAM

NOTE



IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED WITH THE MARK \triangle HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.

WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

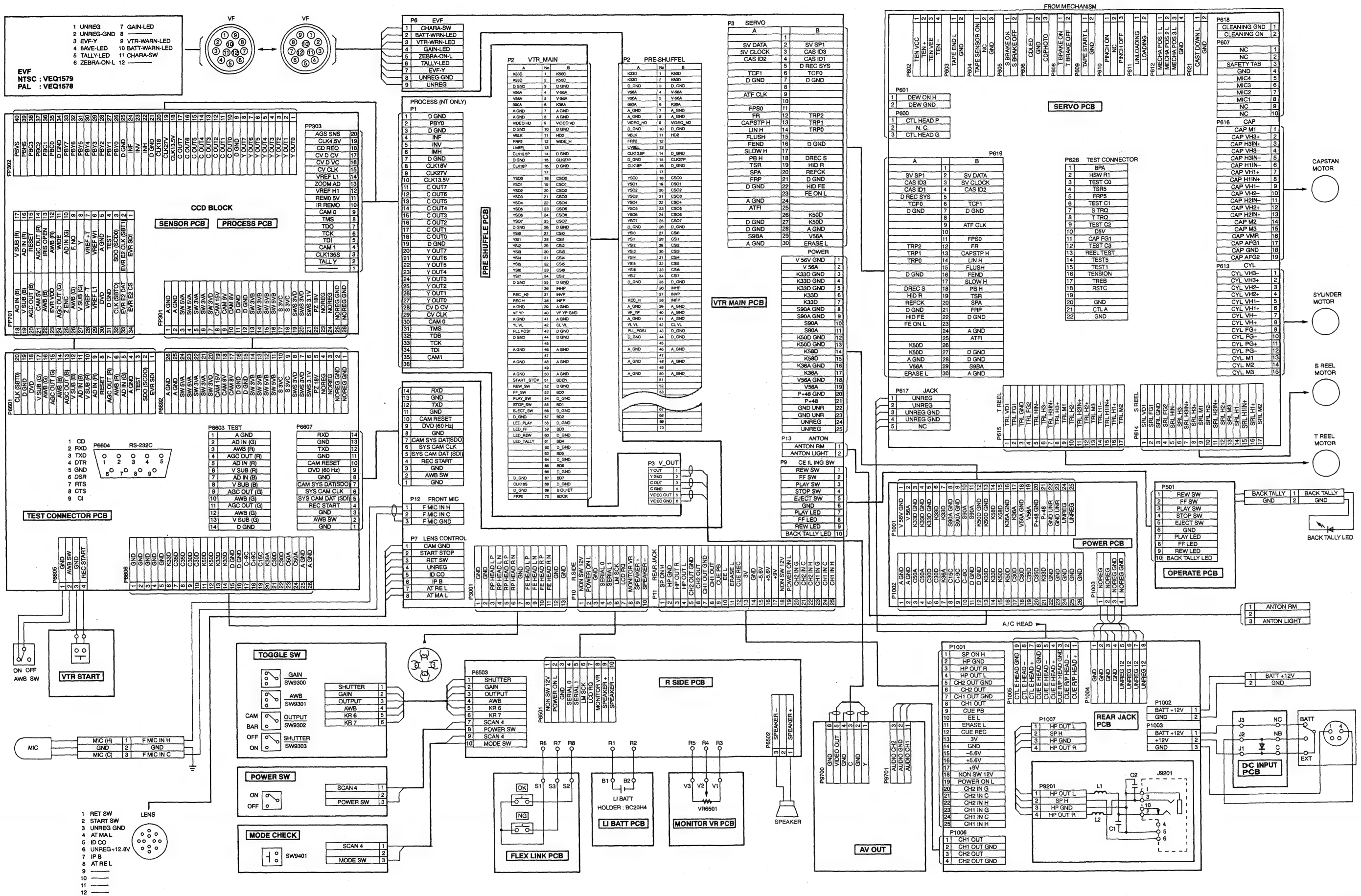
DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST.

AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

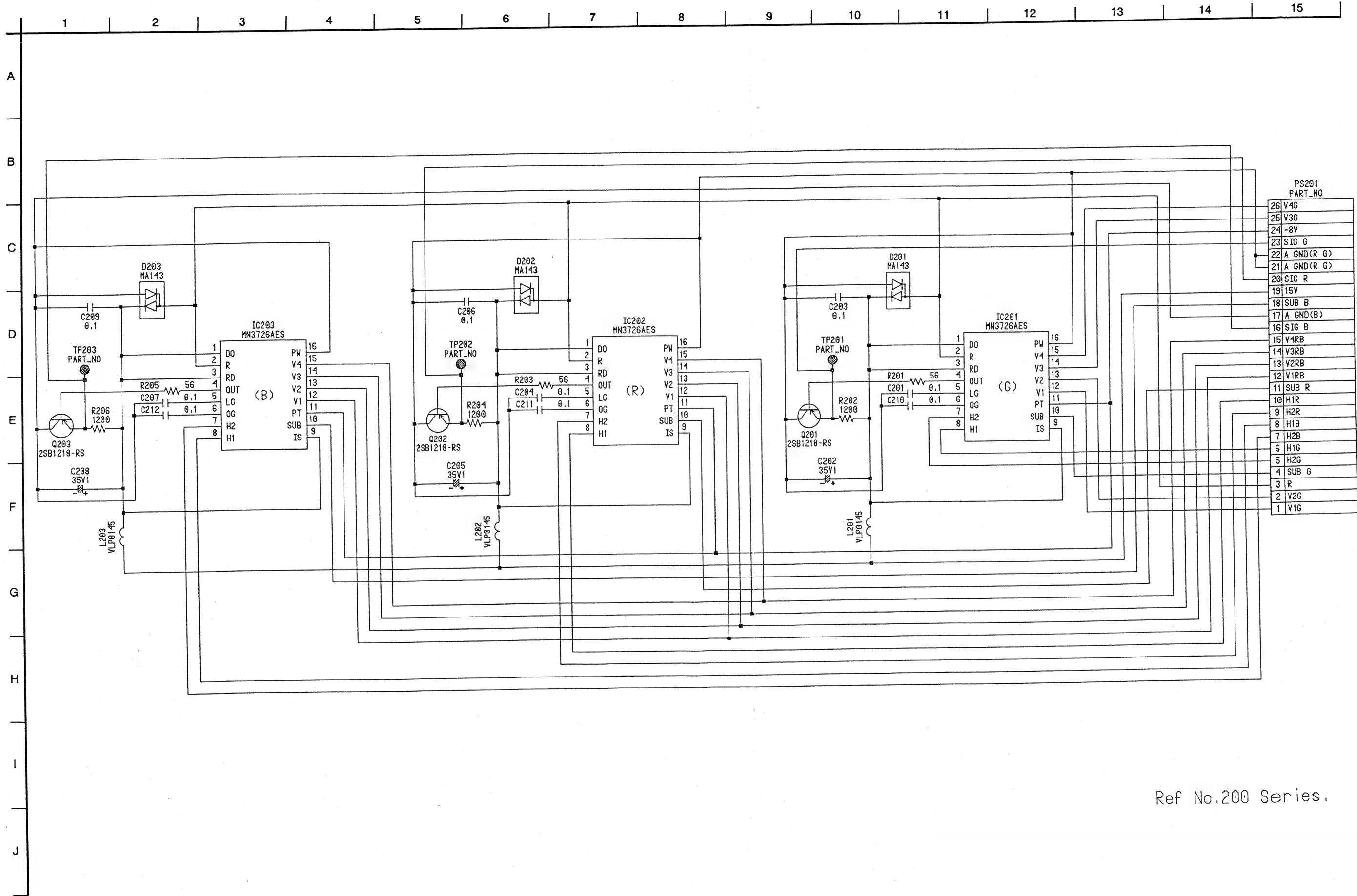
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OVERALL SCHEMATIC DIAGRAM

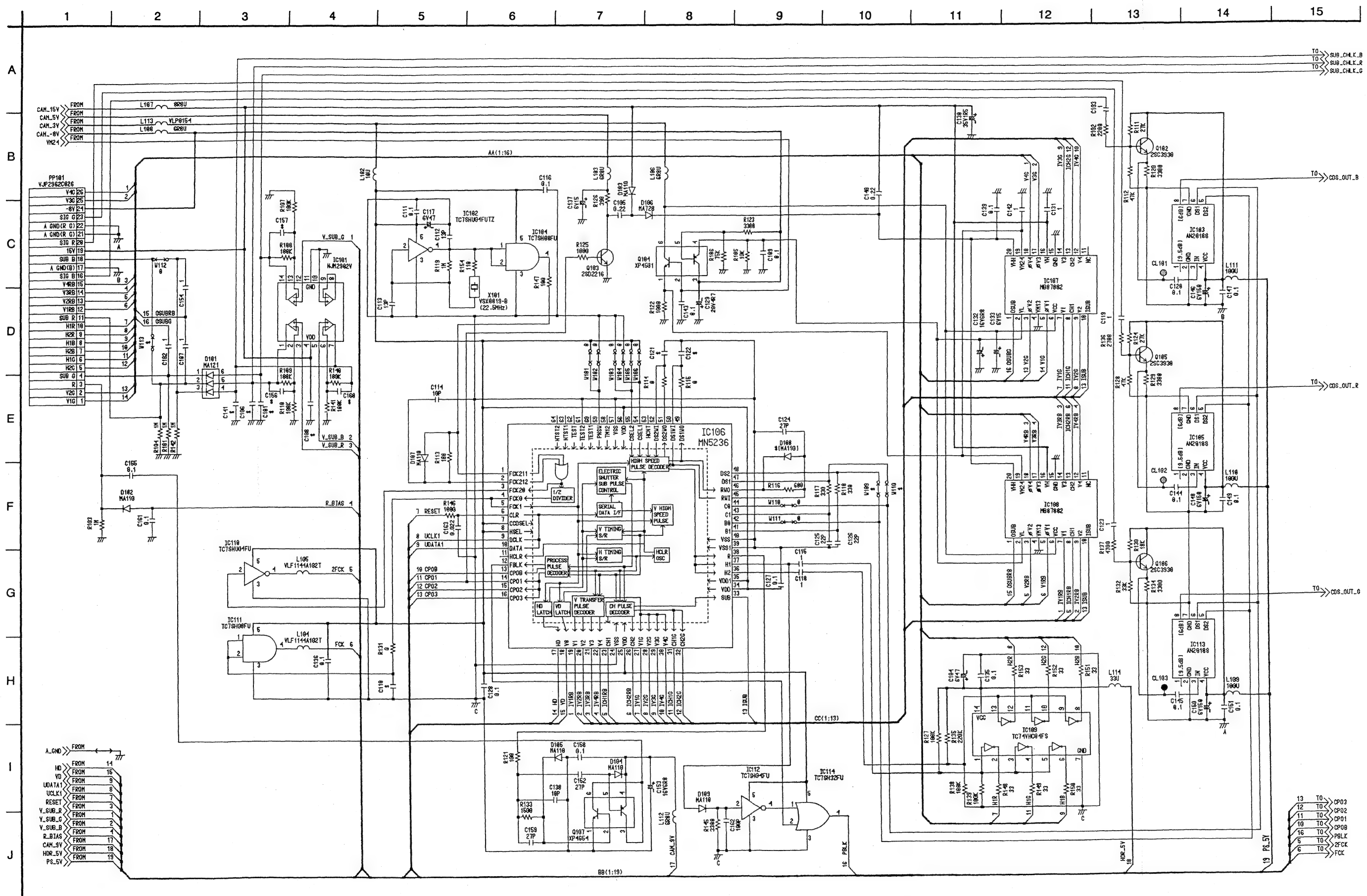


CCD SCHEMATIC DIAGRAM

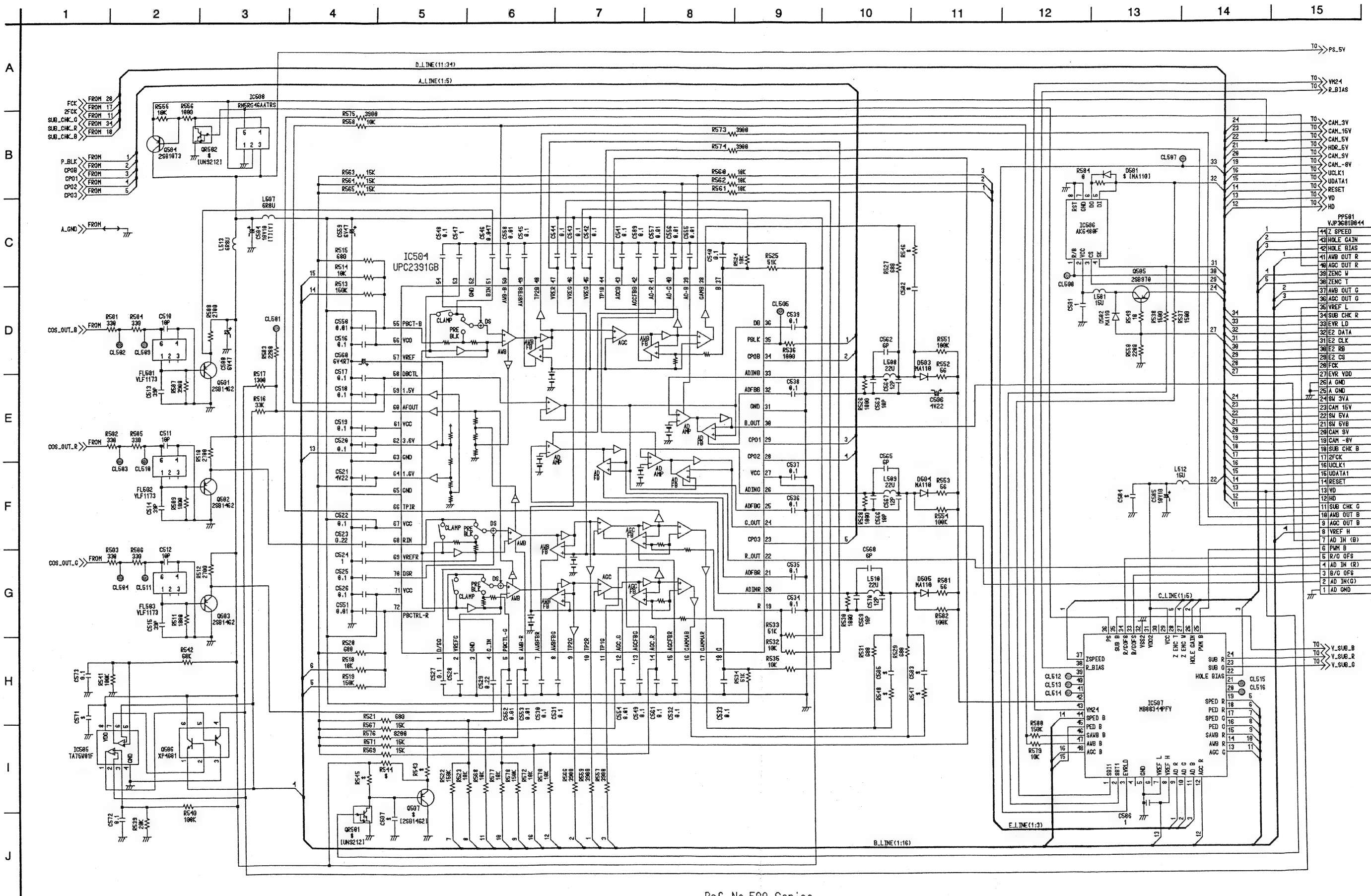


Ref No. 200 Series.

SENSOR SCHEMATIC DIAGRAM



ANALOG PREPROCESS SCHEMATIC DIAGRAM



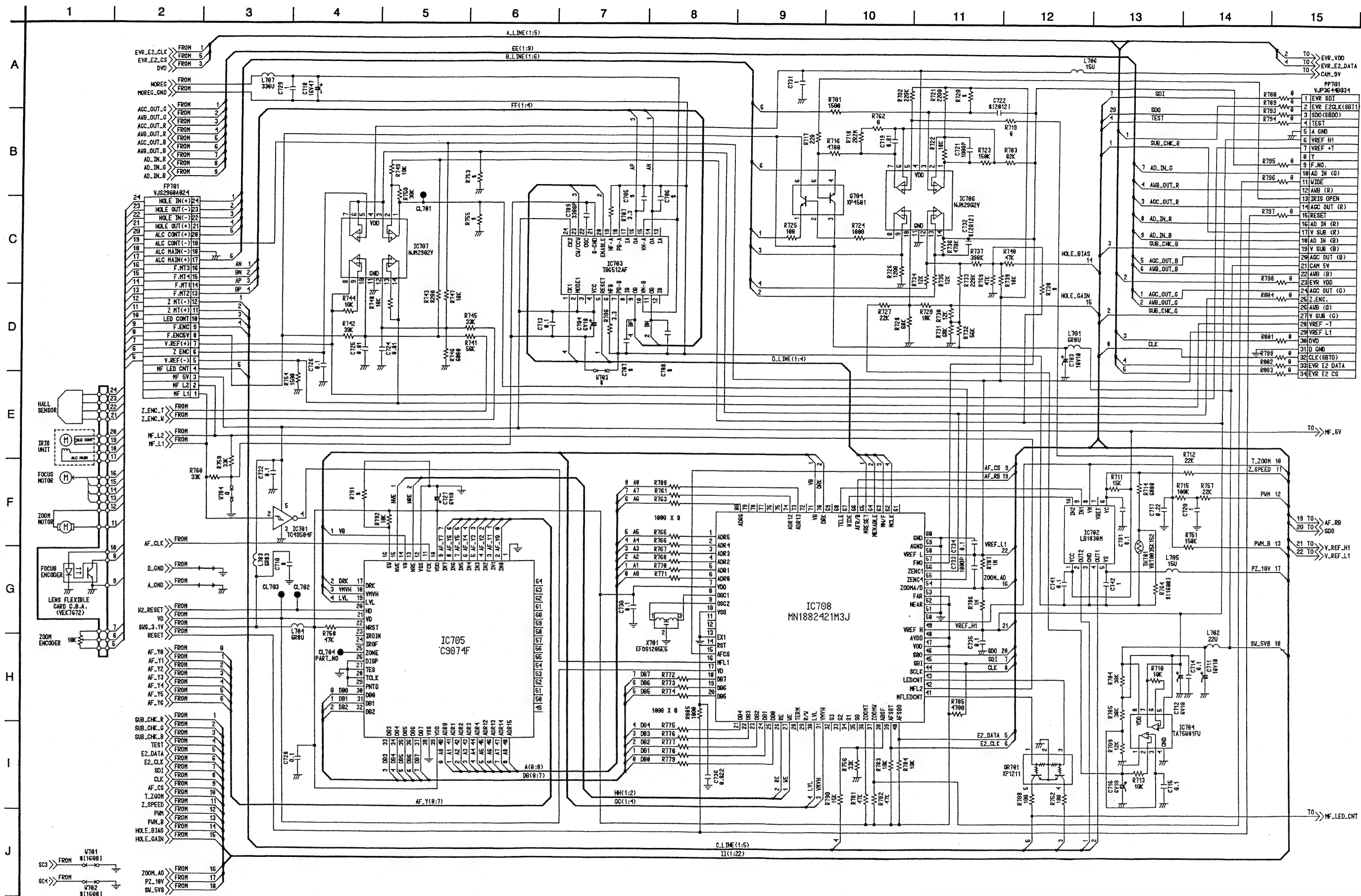
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PROCESS SCHEMATIC DIAGRAM

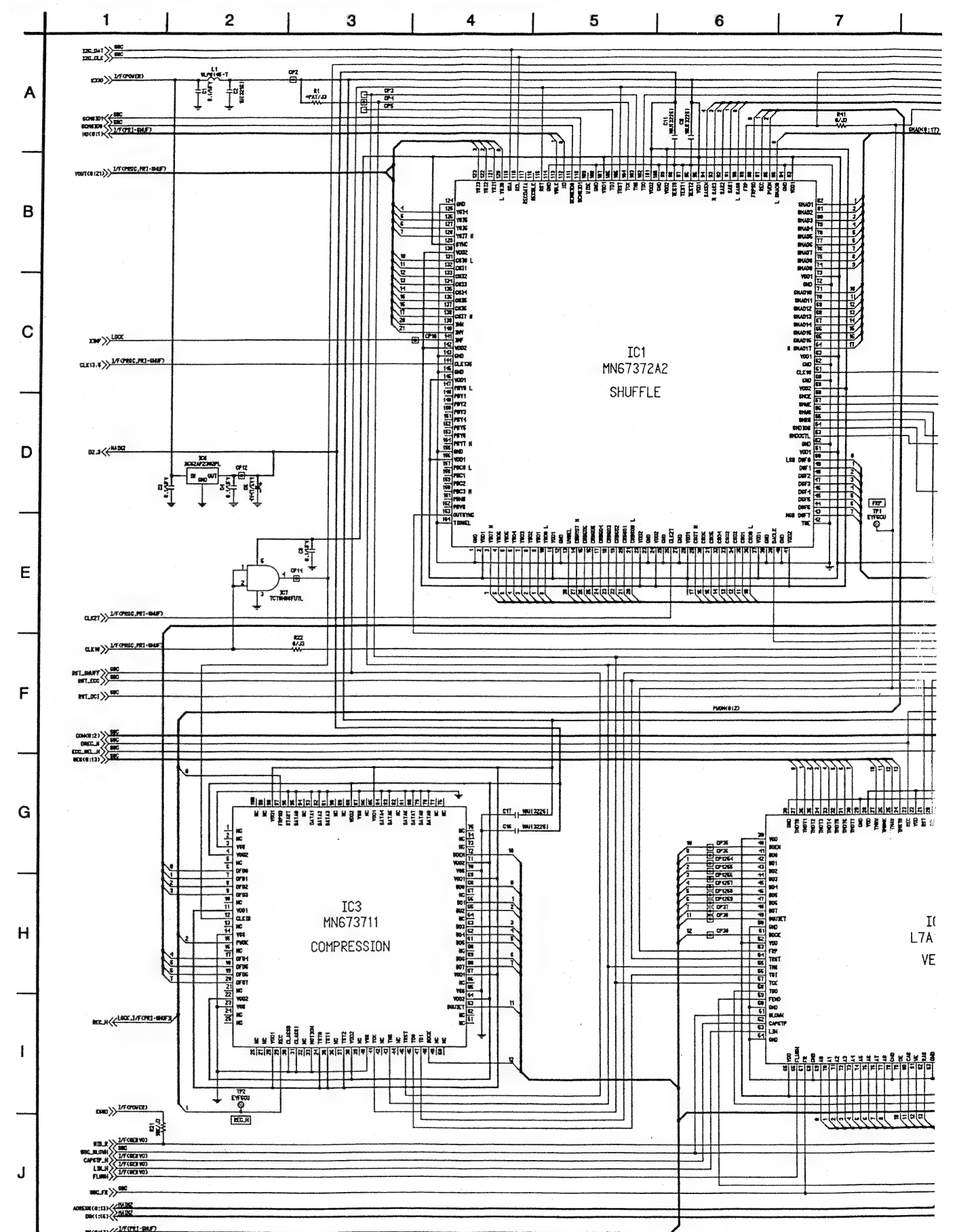
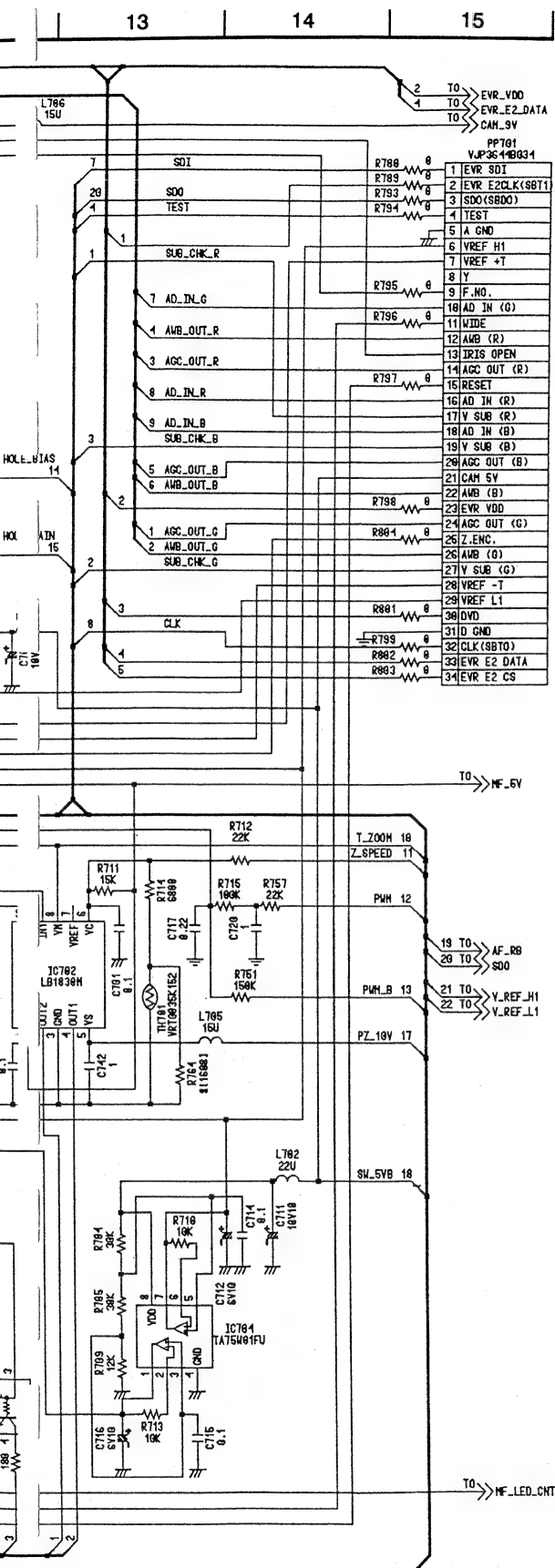




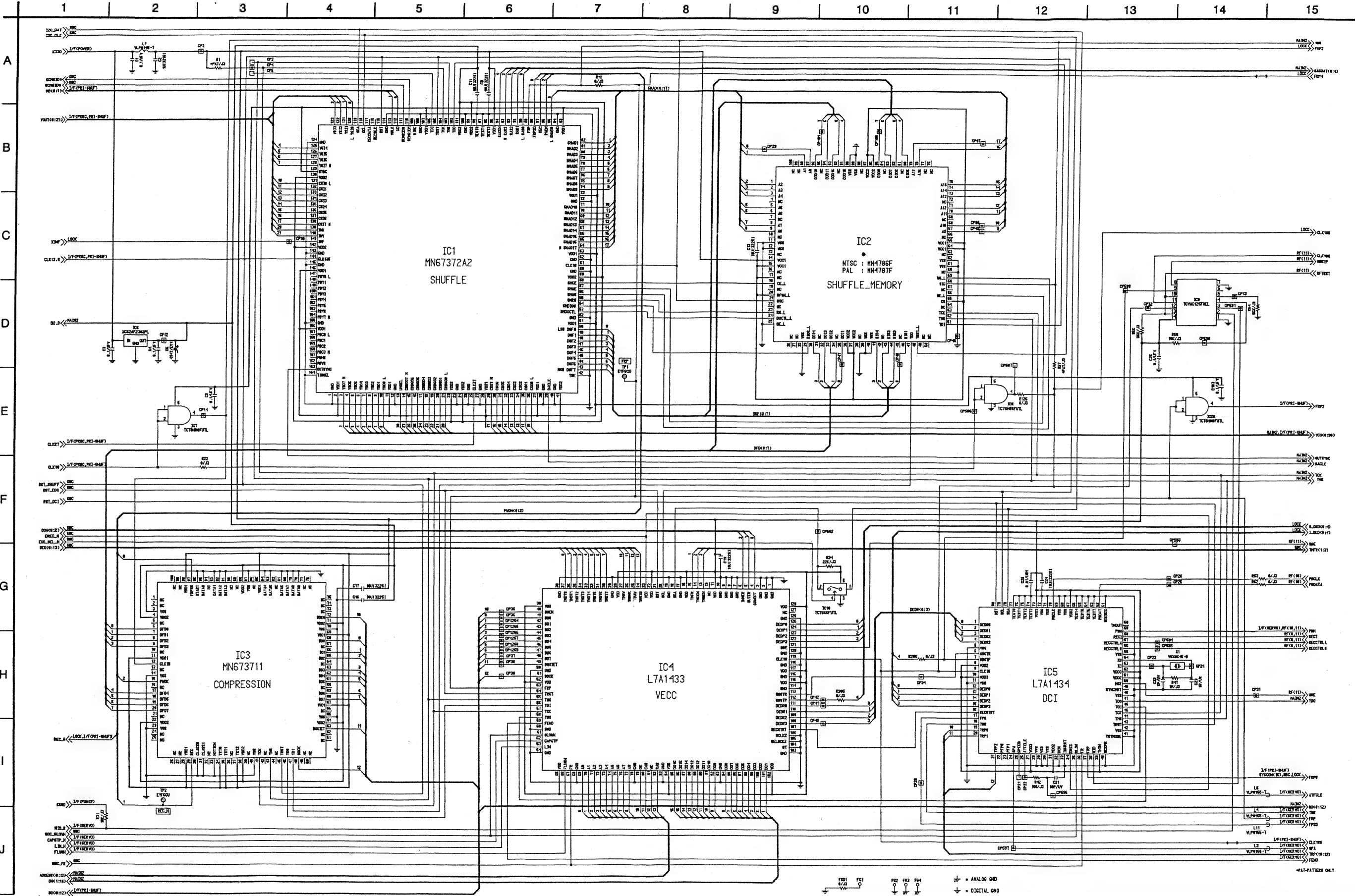
LENS DRIVE SCHEMATIC DIAGRAM



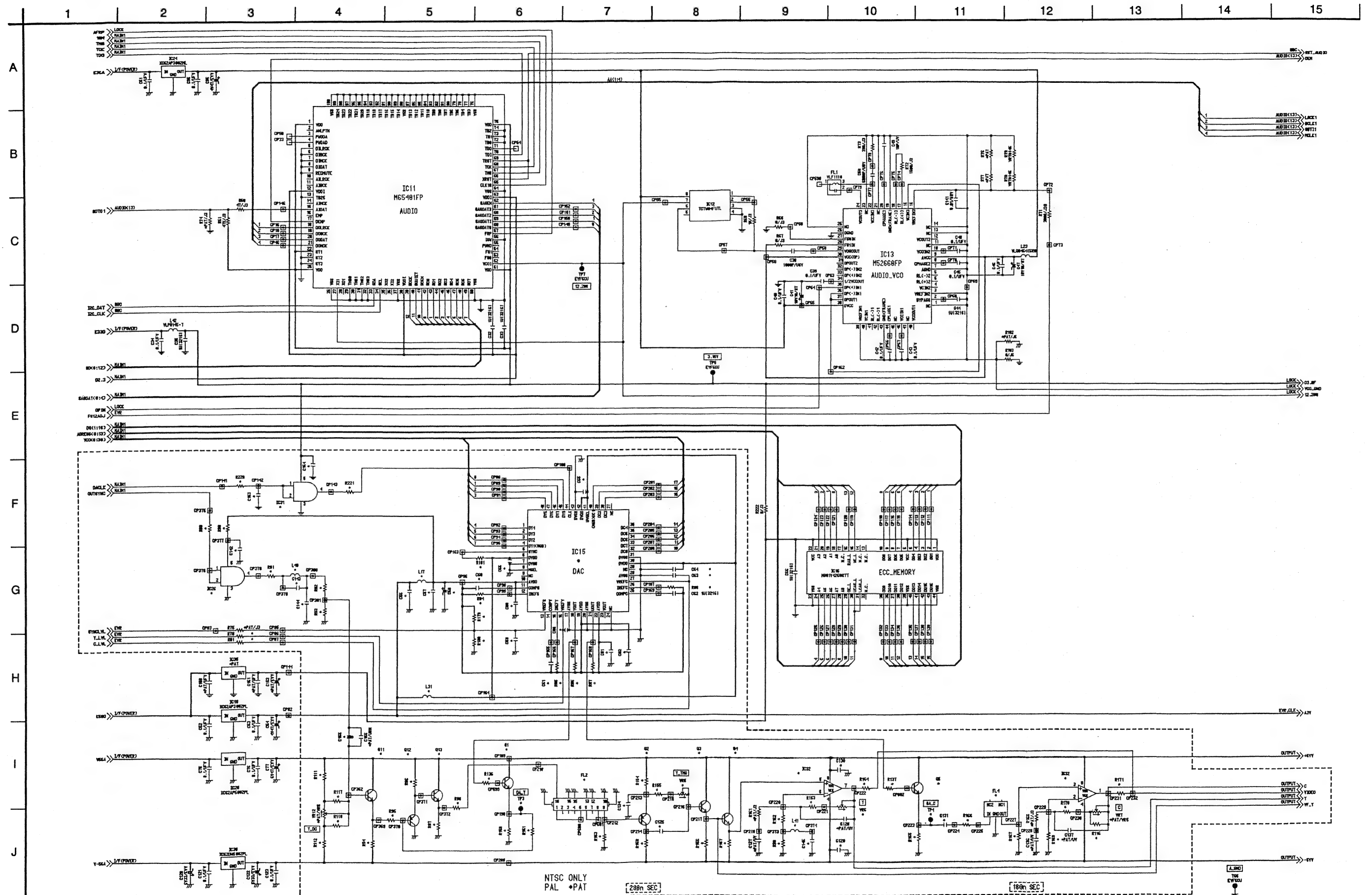
VIDEO MAIN (1/19) SCHEMATIC DIAGRAM



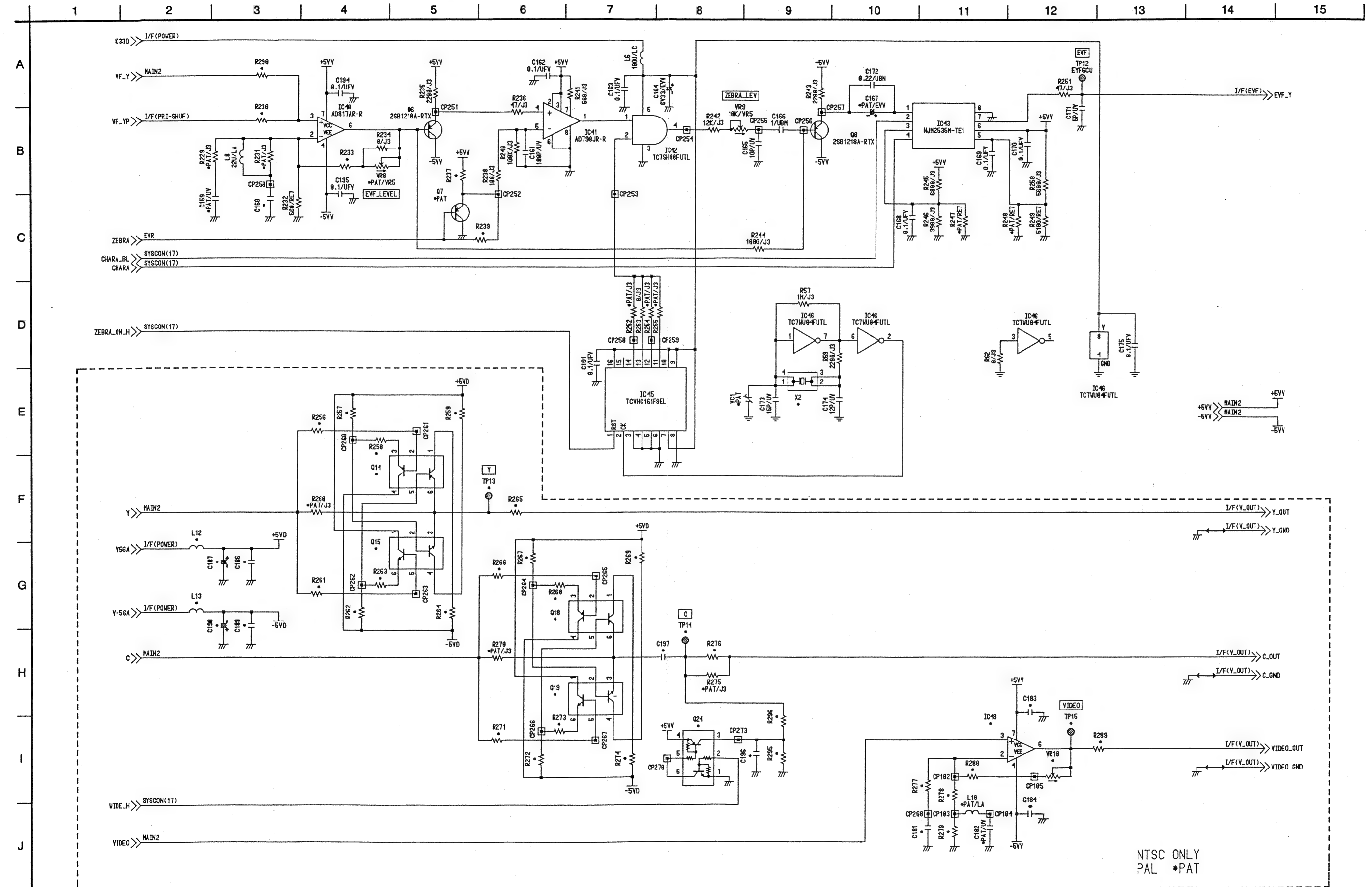
VIDEO MAIN (1/19) SCHEMATIC DIAGRAM



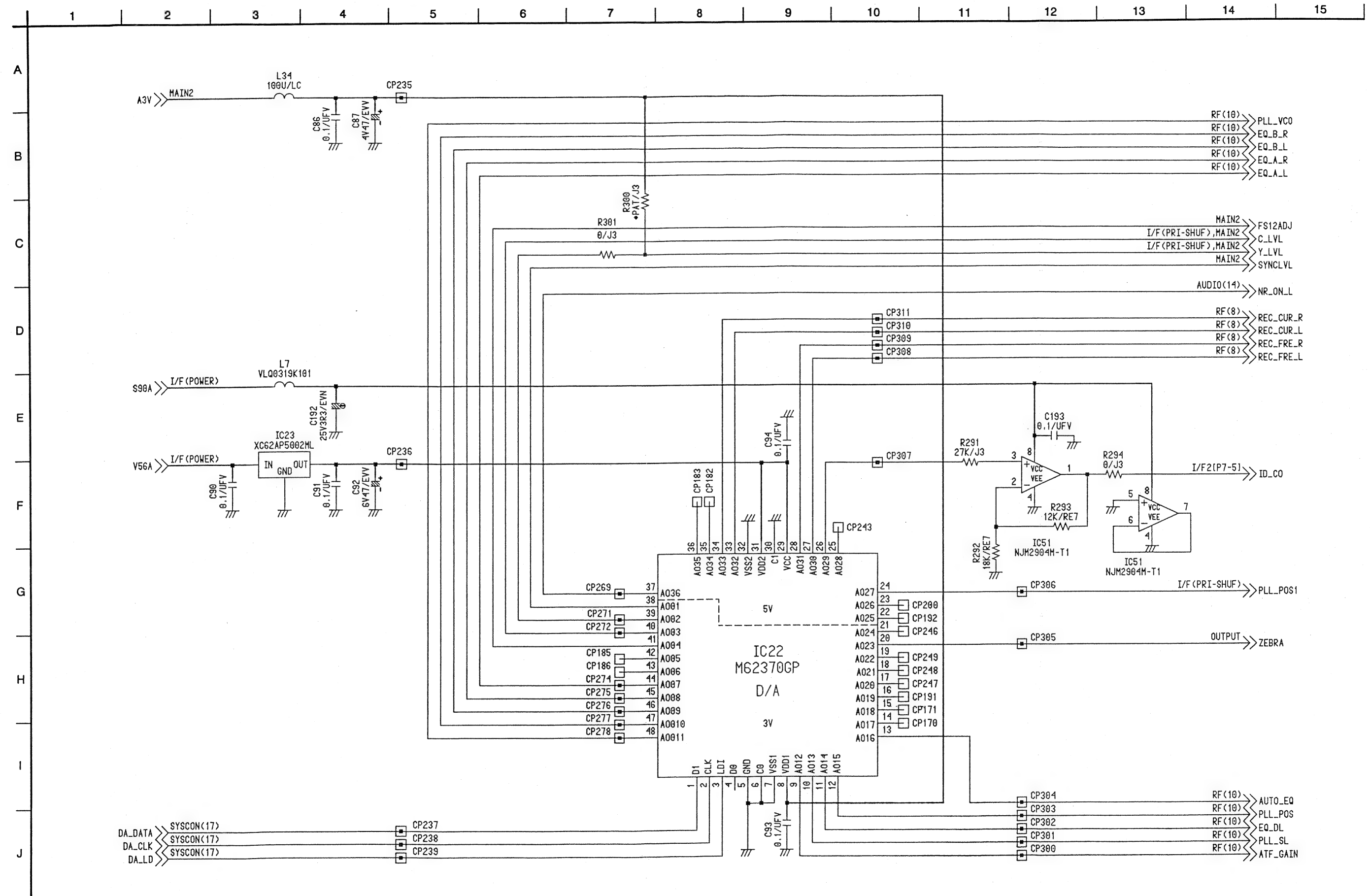
VIDEO MAIN (2/19) SCHEMATIC DIAGRAM



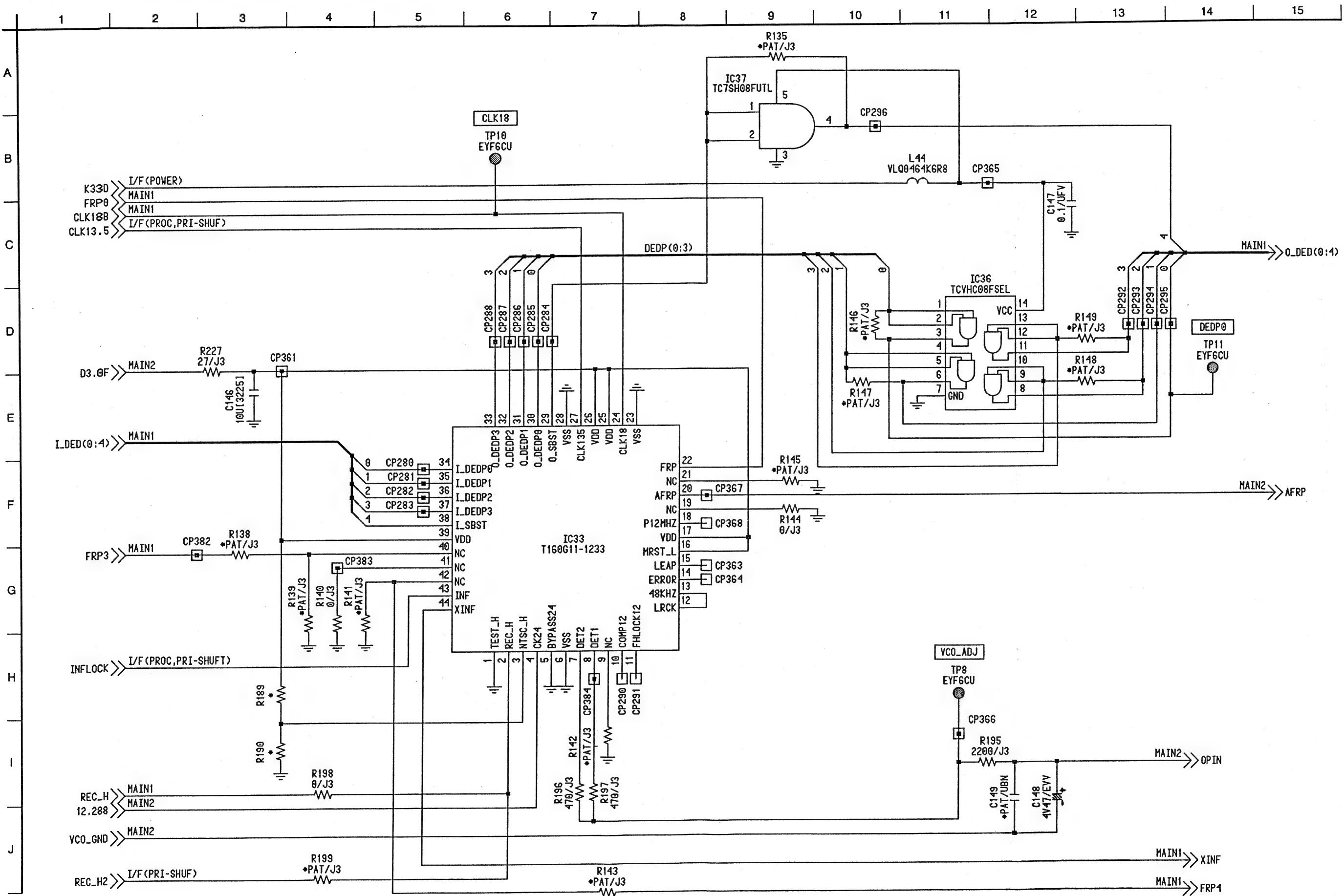
VIDEO OUTPUT (3/19) SCHEMATIC DIAGRAM



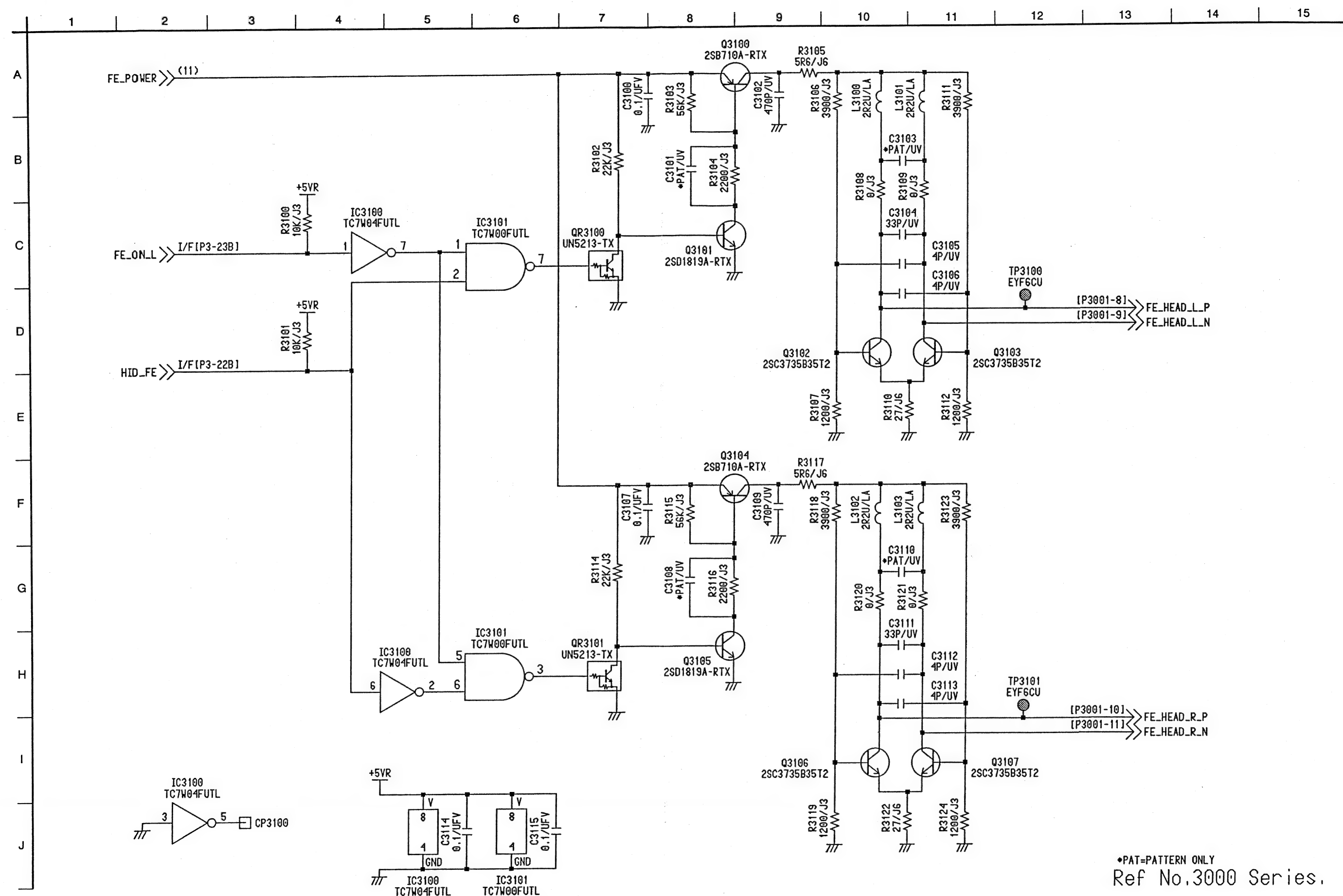
VIDEO EVR (4/19) SCHEMATIC DIAGRAM



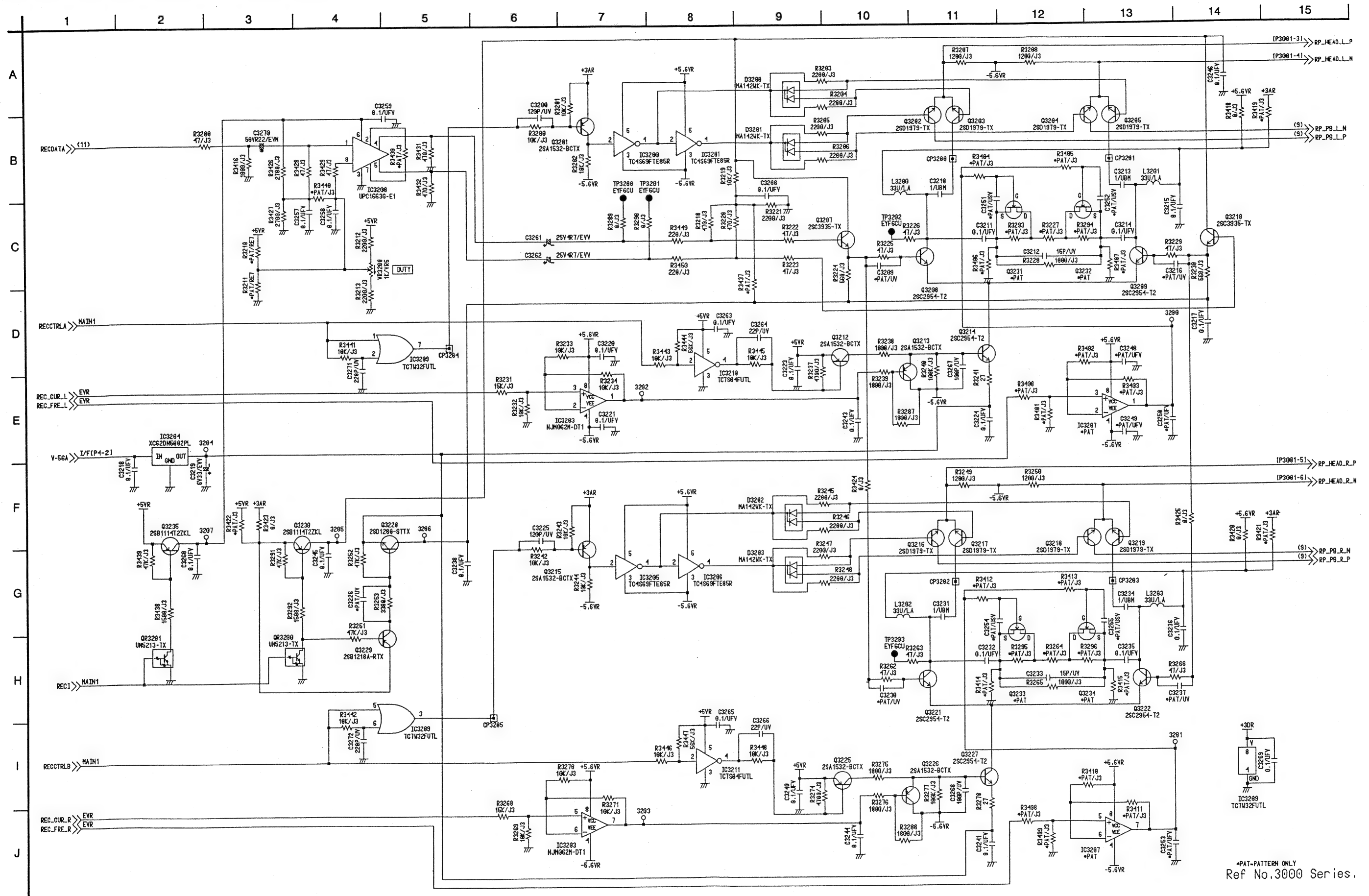
VIDEO LOCK (6/19) SCHEMATIC DIAGRAM



RF (7/19) SCHEMATIC DIAGRAM



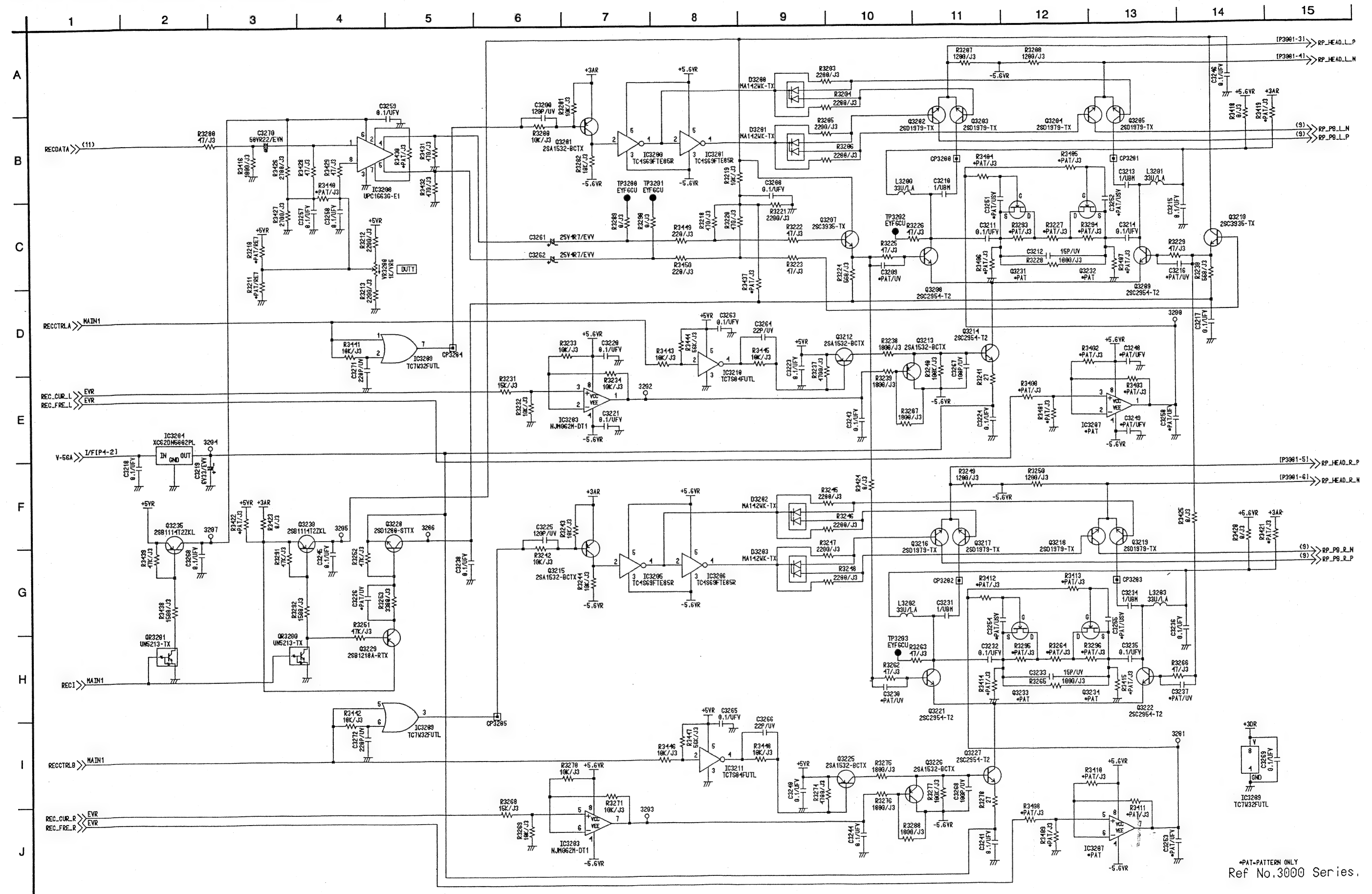
RF (8/19) SCHEMATIC DIAGRAM



A horizontal number line with tick marks labeled 1 through 15. The line is slightly slanted upwards from left to right. The numbers are placed below the tick marks.



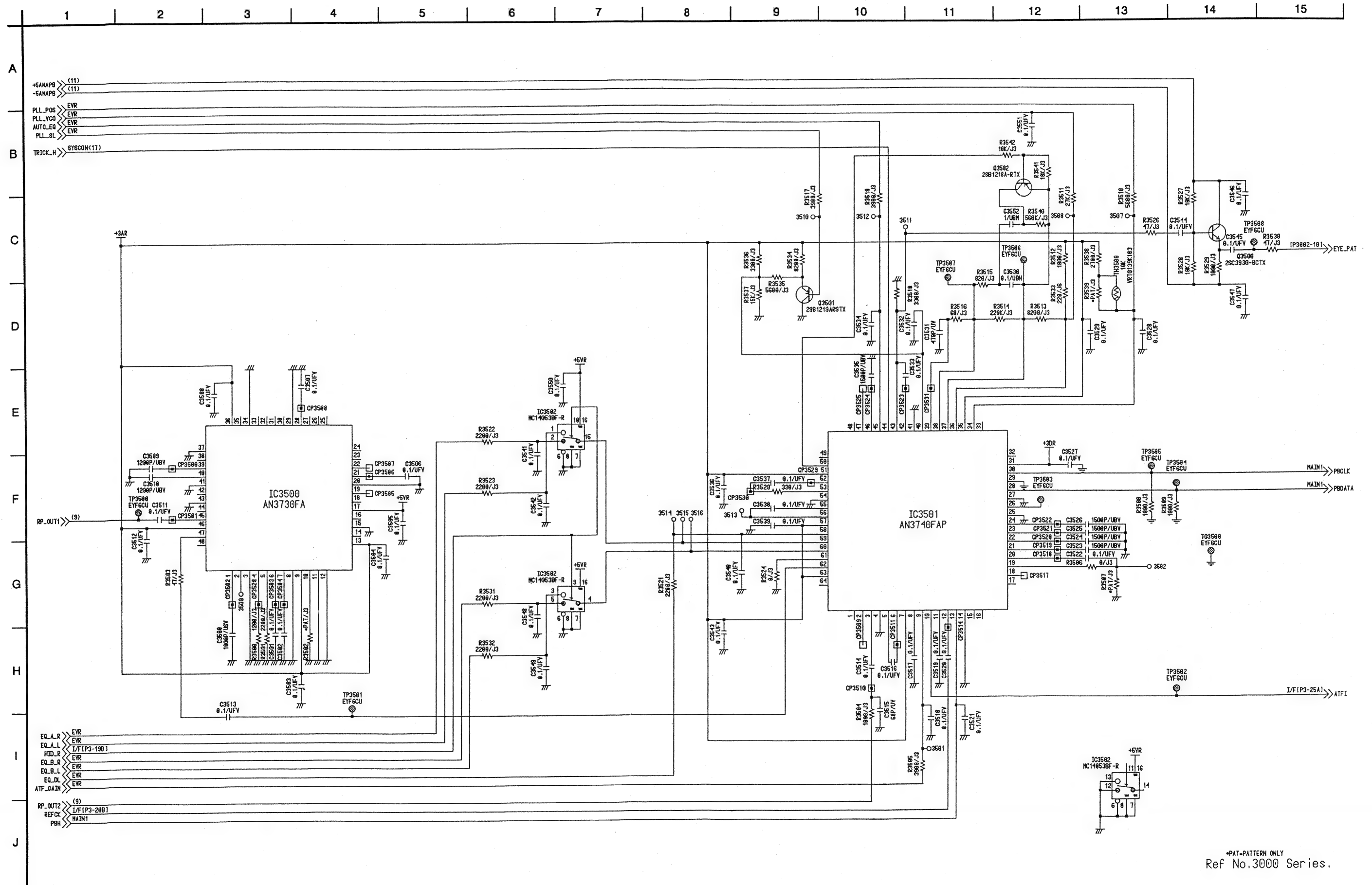
RF (8/19) SCHEMATIC DIAGRAM



[illegible]

SCM-16

RF (10/19) SCHEMATIC DIAGRAM

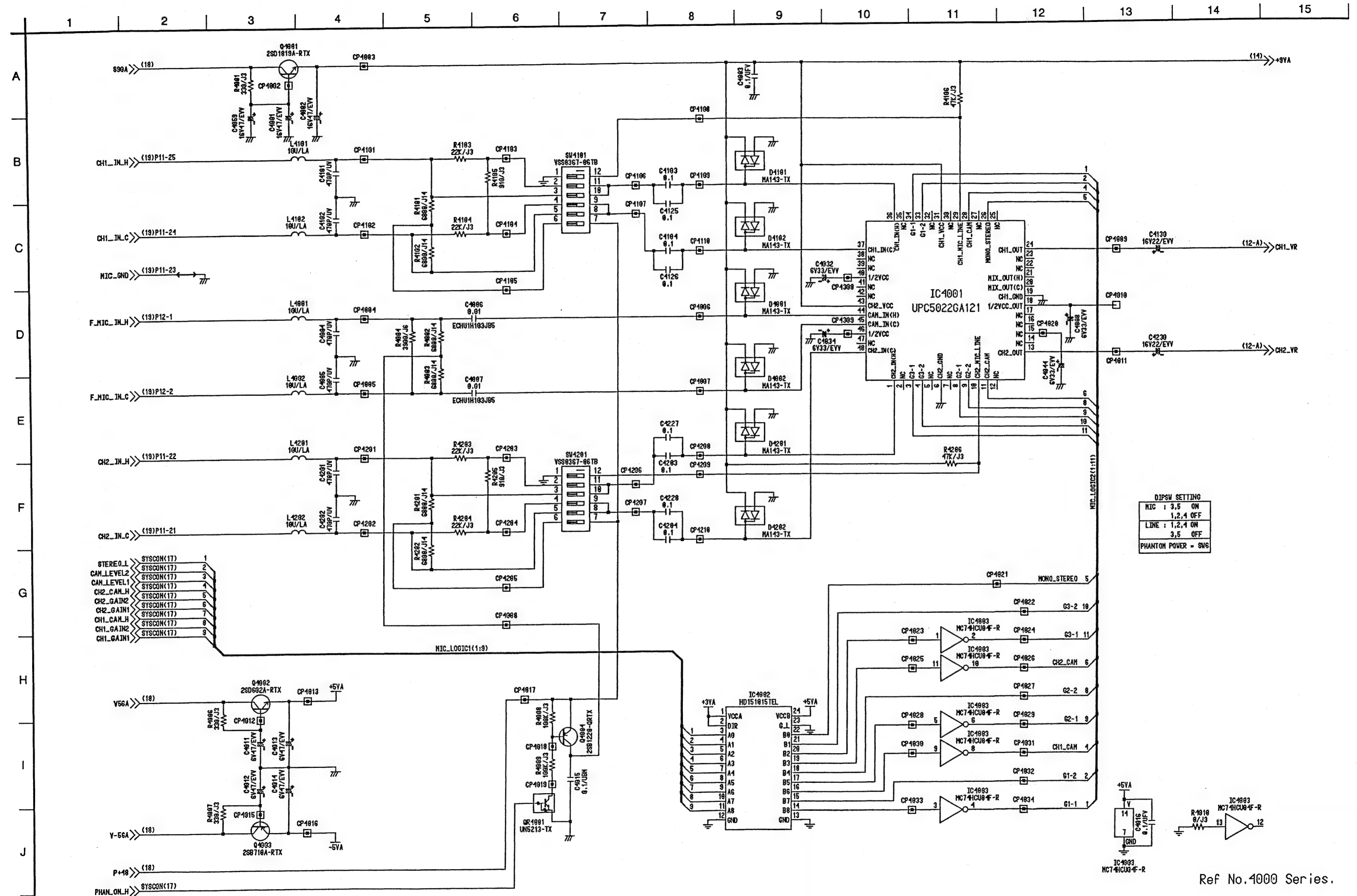


*PAT-PATTERN ONLY
Ref No.3000 Series.

[illegible]

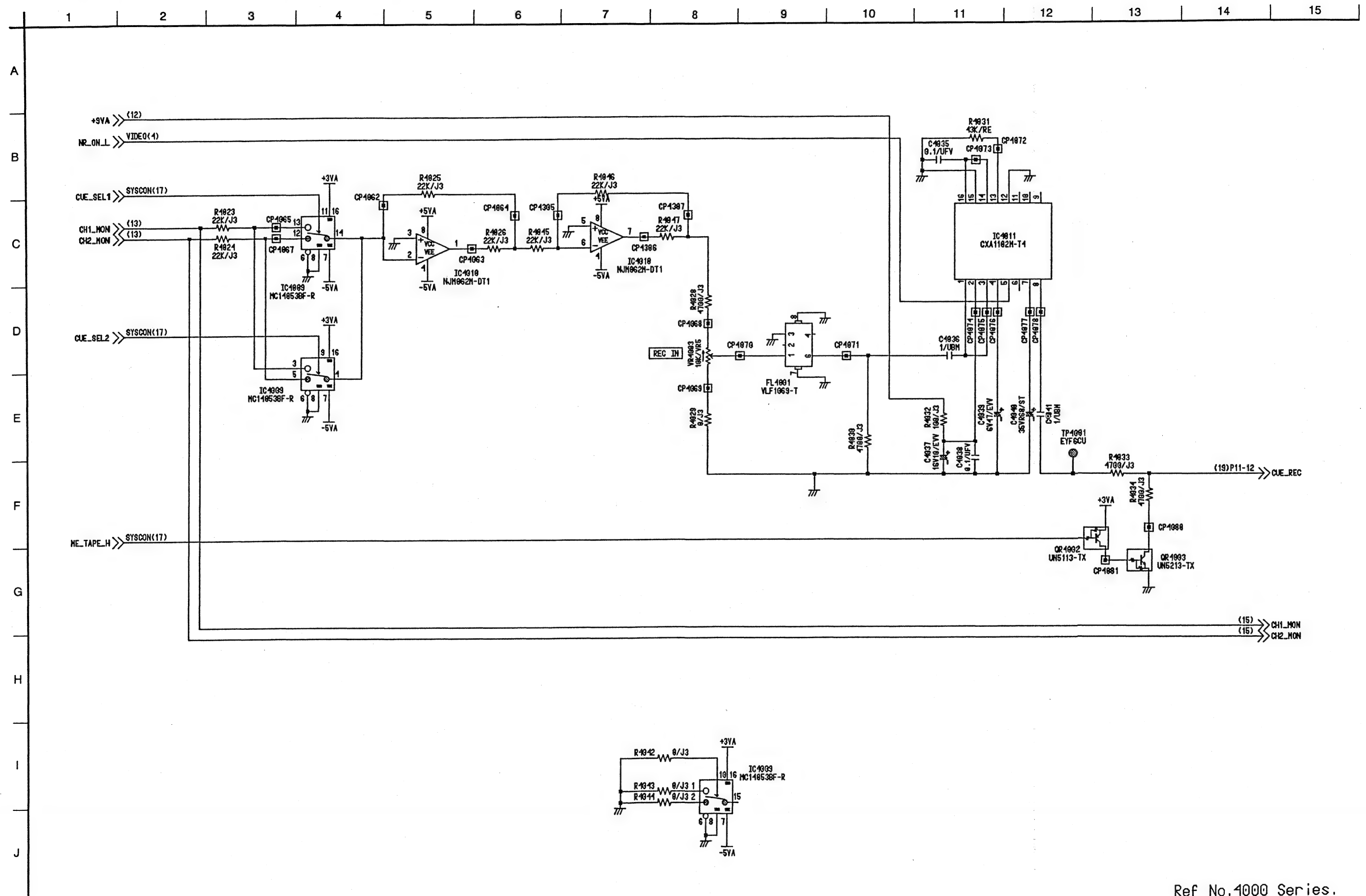
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AUDIO (12/19) SCHEMATIC DIAGRAM



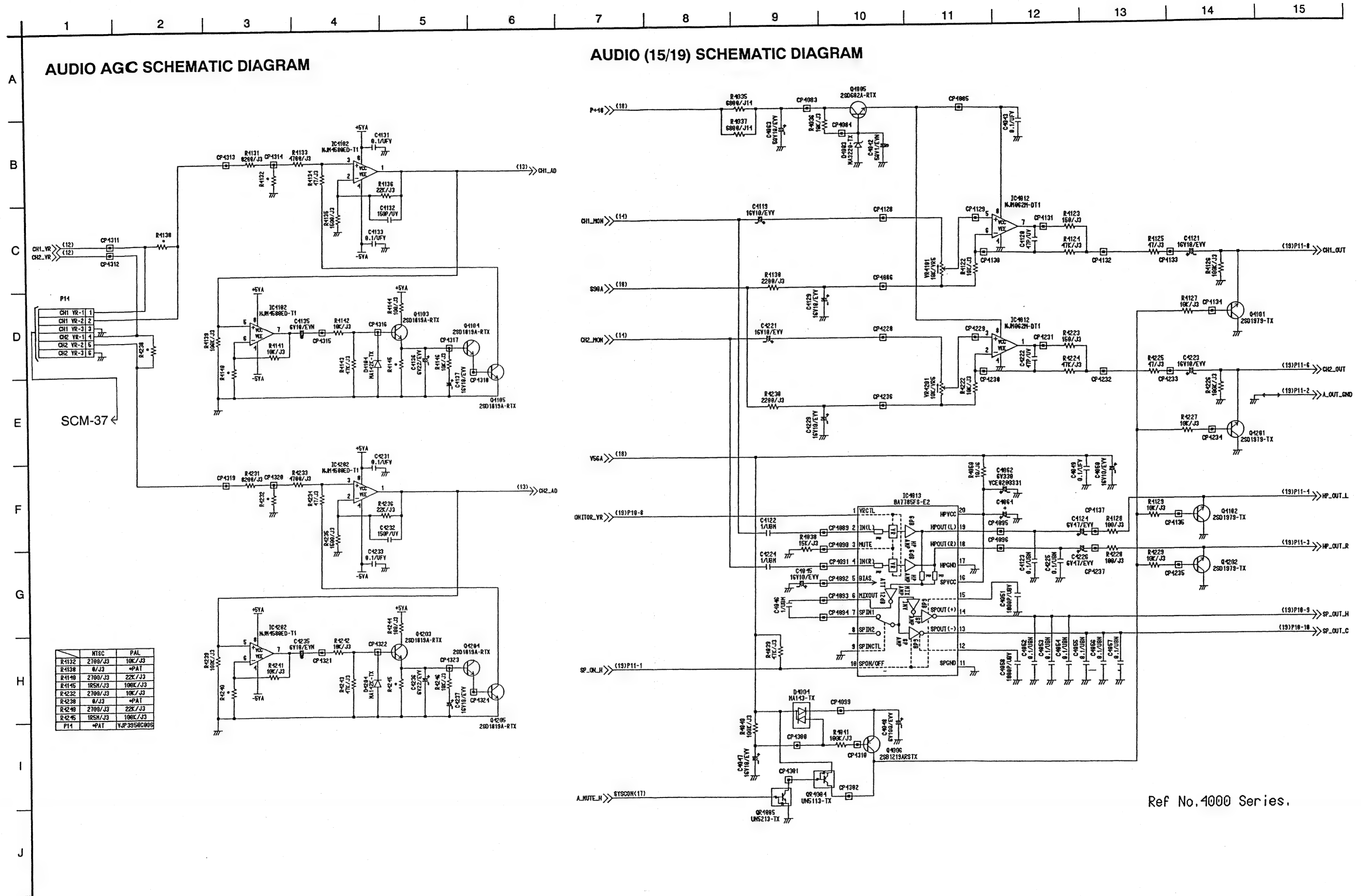
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AUDIO (14/19) SCHEMATIC DIAGRAM



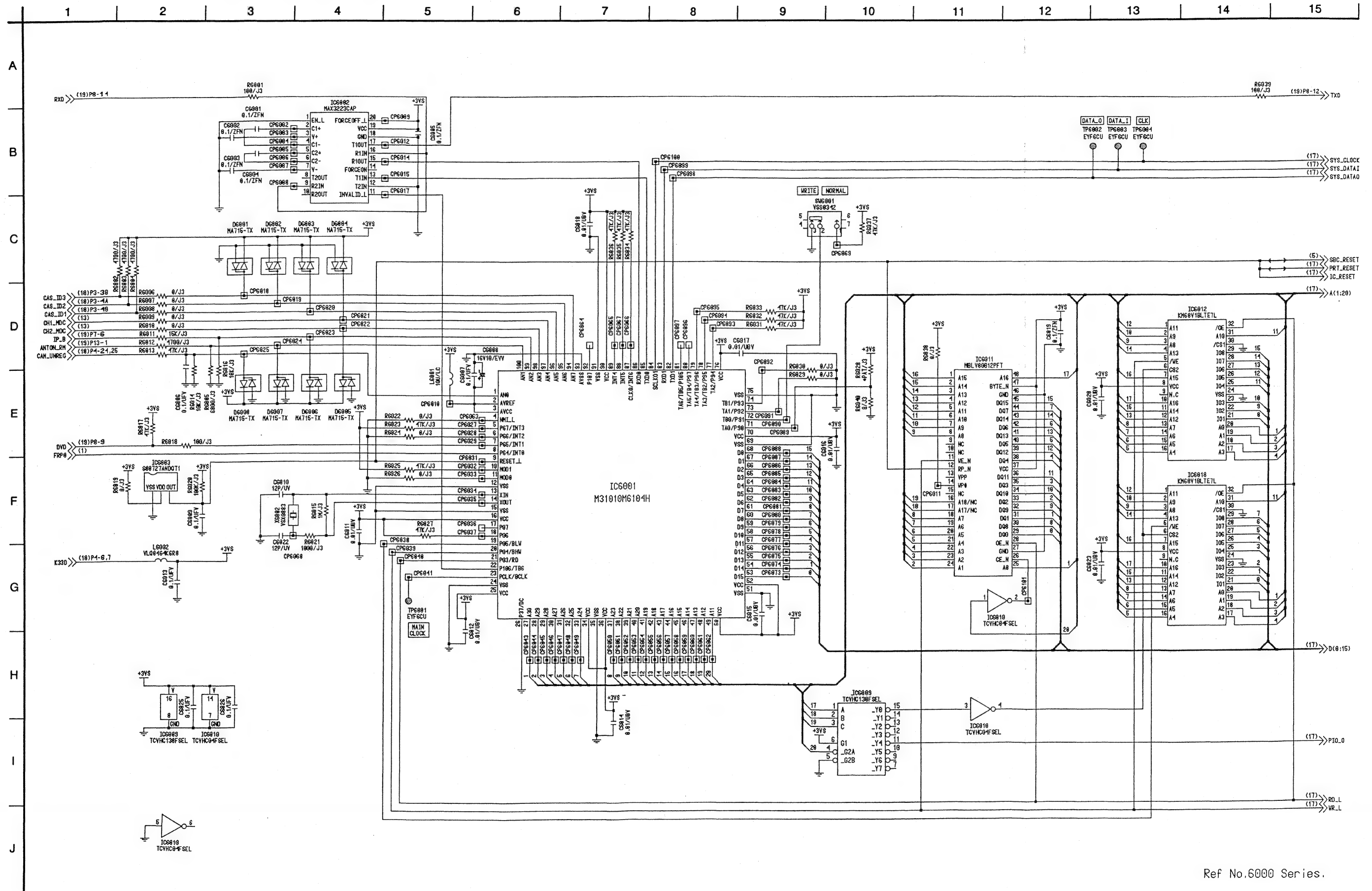
Ref No.4000 Series.

AUDIO AGC & AUDIO (15/19) SCHEMATIC DIAGRAM



Ref No.4000 Series.

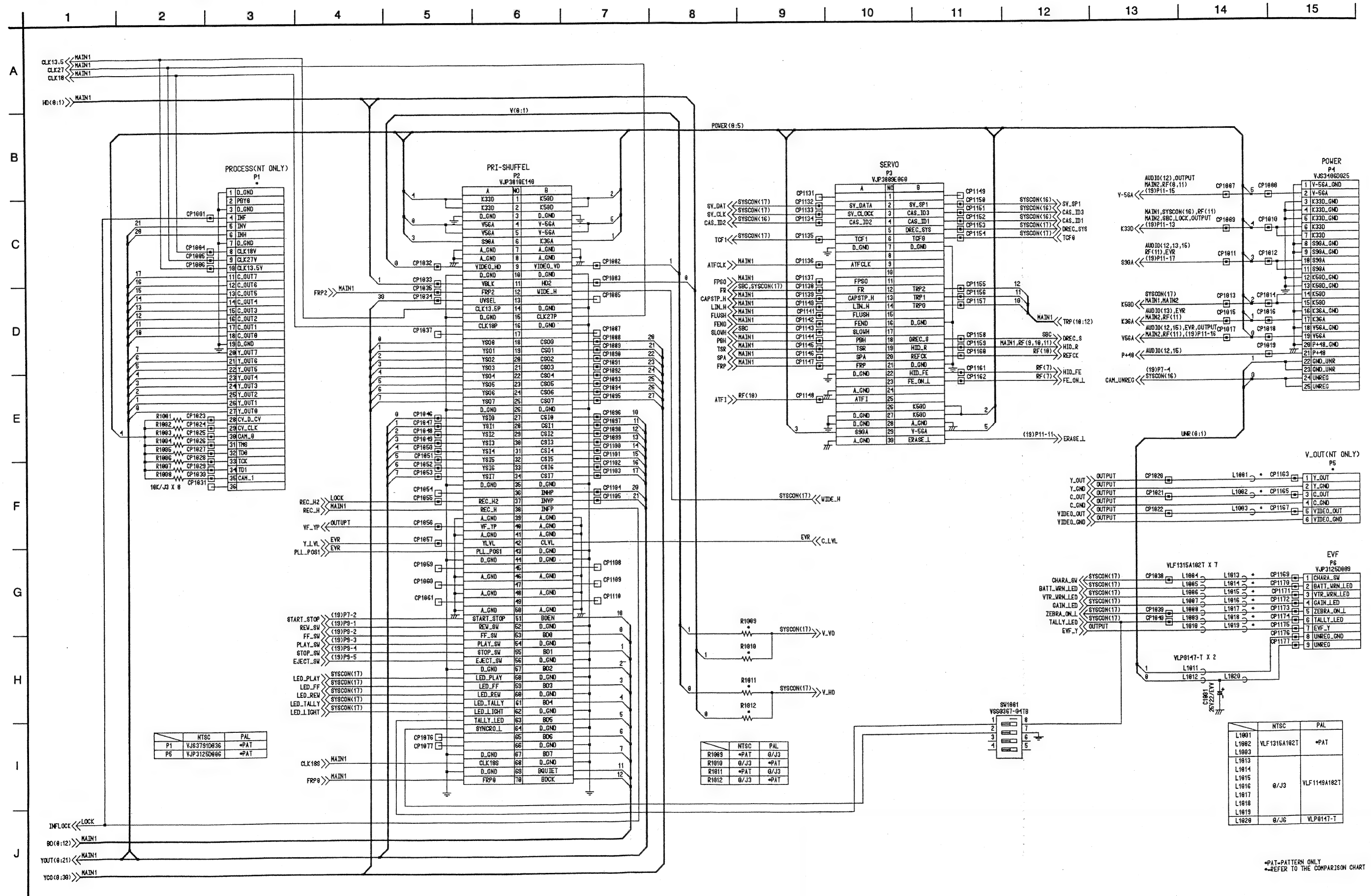
SYSTEM CONTROL (16/19) SCHEMATIC DIAGRAM



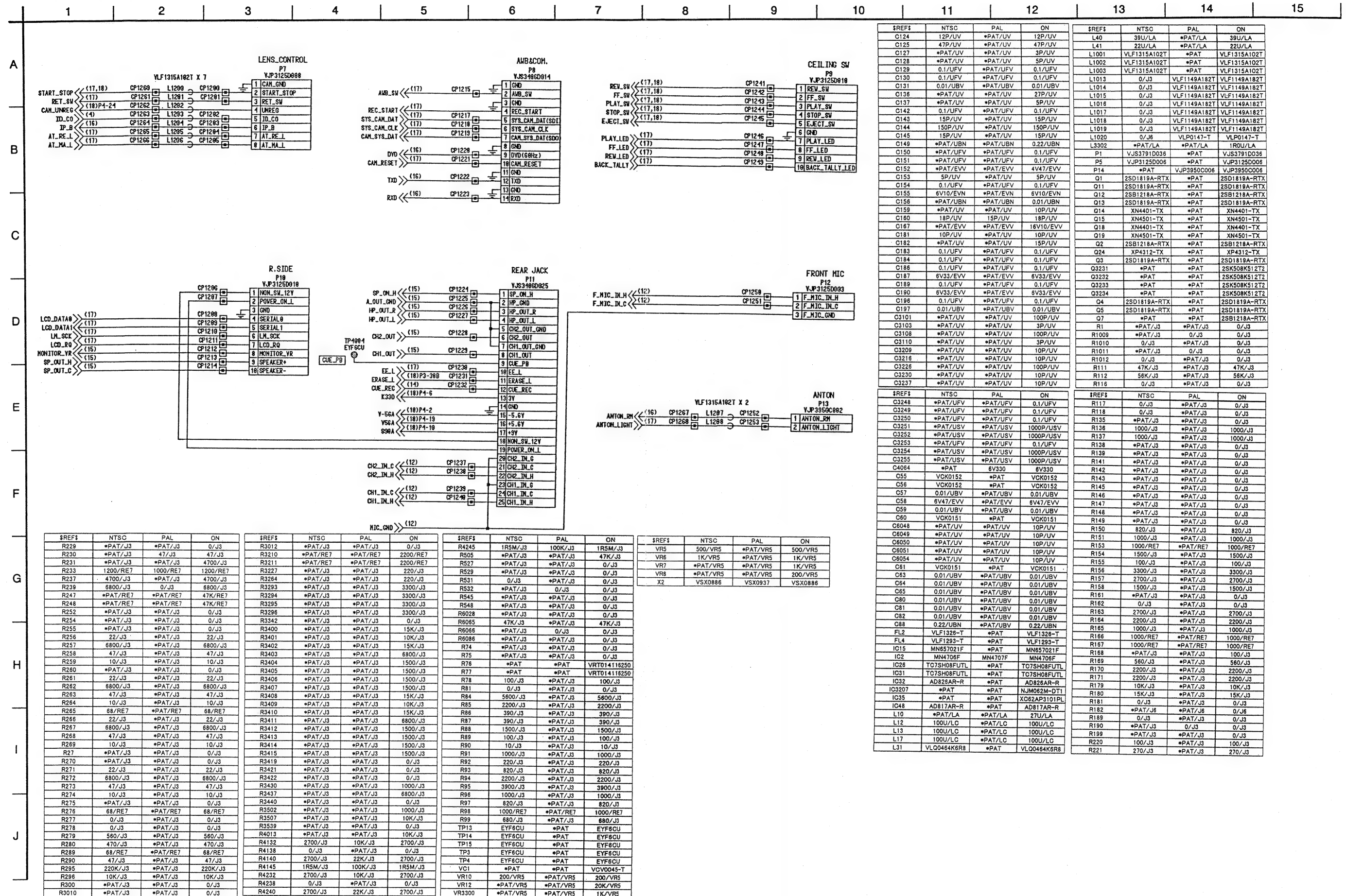
Ref No.6000 Series.

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I/F-1 (18/19) SCHEMATIC DIAGRAM



I/F-2 (19/19) SCHEMATIC DIAGRAM



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----



The schematic diagram illustrates a power management and control system, organized into a grid with columns 1 through 15 and rows A through J.

Power Regulation Section (Top and Bottom):

- Top Section:** Features a 2SB1973-QRTX transistor (Q301) and a VL00407151K inductor (L301). The circuit includes resistors R301 (100K/J3), R302 (100K/J3), R303 (100K/J3), R304 (100K/J3), R305 (100K/J3), R306 (100K/J3), R307 (100K/J3), R308 (100K/J3), R309 (100K/J3), R310 (100K/J3), R311 (100K/J3), R312 (100K/J3), R313 (100K/J3), R314 (100K/J3), R315 (100K/J3), R316 (100K/J3), R317 (100K/J3), R318 (100K/J3), R319 (100K/J3), R320 (100K/J3), R321 (100K/J3), R322 (100K/J3), R323 (100K/J3), R324 (100K/J3), R325 (100K/J3), R326 (100K/J3), R327 (100K/J3), R328 (100K/J3), R329 (100K/J3), R330 (100K/J3), R331 (100K/J3), R332 (100K/J3), R333 (100K/J3), R334 (100K/J3), R335 (100K/J3), R336 (100K/J3), R337 (100K/J3), R338 (100K/J3), R339 (100K/J3), R340 (100K/J3), R341 (100K/J3), R342 (100K/J3), R343 (100K/J3), R344 (100K/J3), R345 (100K/J3), R346 (100K/J3).
- Bottom Section:** Features a 2SB1973-QRTX transistor (Q302) and a VL00407151K inductor (L302). The circuit includes resistors R301 (100K/J3), R302 (100K/J3), R303 (100K/J3), R304 (100K/J3), R305 (100K/J3), R306 (100K/J3), R307 (100K/J3), R308 (100K/J3), R309 (100K/J3), R310 (100K/J3), R311 (100K/J3), R312 (100K/J3), R313 (100K/J3), R314 (100K/J3), R315 (100K/J3), R316 (100K/J3), R317 (100K/J3), R318 (100K/J3), R319 (100K/J3), R320 (100K/J3), R321 (100K/J3), R322 (100K/J3), R323 (100K/J3), R324 (100K/J3), R325 (100K/J3), R326 (100K/J3), R327 (100K/J3), R328 (100K/J3), R329 (100K/J3), R330 (100K/J3), R331 (100K/J3), R332 (100K/J3), R333 (100K/J3), R334 (100K/J3), R335 (100K/J3), R336 (100K/J3), R337 (100K/J3), R338 (100K/J3), R339 (100K/J3), R340 (100K/J3), R341 (100K/J3), R342 (100K/J3), R343 (100K/J3), R344 (100K/J3), R345 (100K/J3), R346 (100K/J3).

Control Section (Center):

- IC301 (TL1451CNS-R):** A precision centaur op-amp used for signal processing.
- IC302 (AN3841SR):** A timer IC used for timing and signal processing.
- IC303 (TP301 EYF6CU):** A timer IC used for timing and signal processing.
- IC304 (TP302 EYF6CU):** A timer IC used for timing and signal processing.

Output Section (Right):

- TP301 (EYF6CU):** A timer IC used for timing and signal processing.
- TP302 (EYF6CU):** A timer IC used for timing and signal processing.

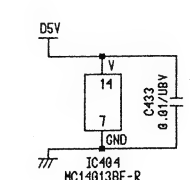
Input Section (Left):

- UNREG:** Unregulated input voltage.
- DSV:** Differential signal input.
- A9V:** Analog signal input.
- 5R6V:** Negative signal input.
- GND:** Ground connection.
- UNREG_GND:** Unregulated ground connection.
- TG300:** Temperature sensor input.
- RST_SEC_L:** Reset signal input.
- RST_STL_H:** Reset signal input.
- S_EC:** Signal input.
- S_ECR:** Signal input.
- S_RSF:** Signal input.
- T_EC:** Signal input.
- T_ECR:** Signal input.
- T_RSF:** Signal input.

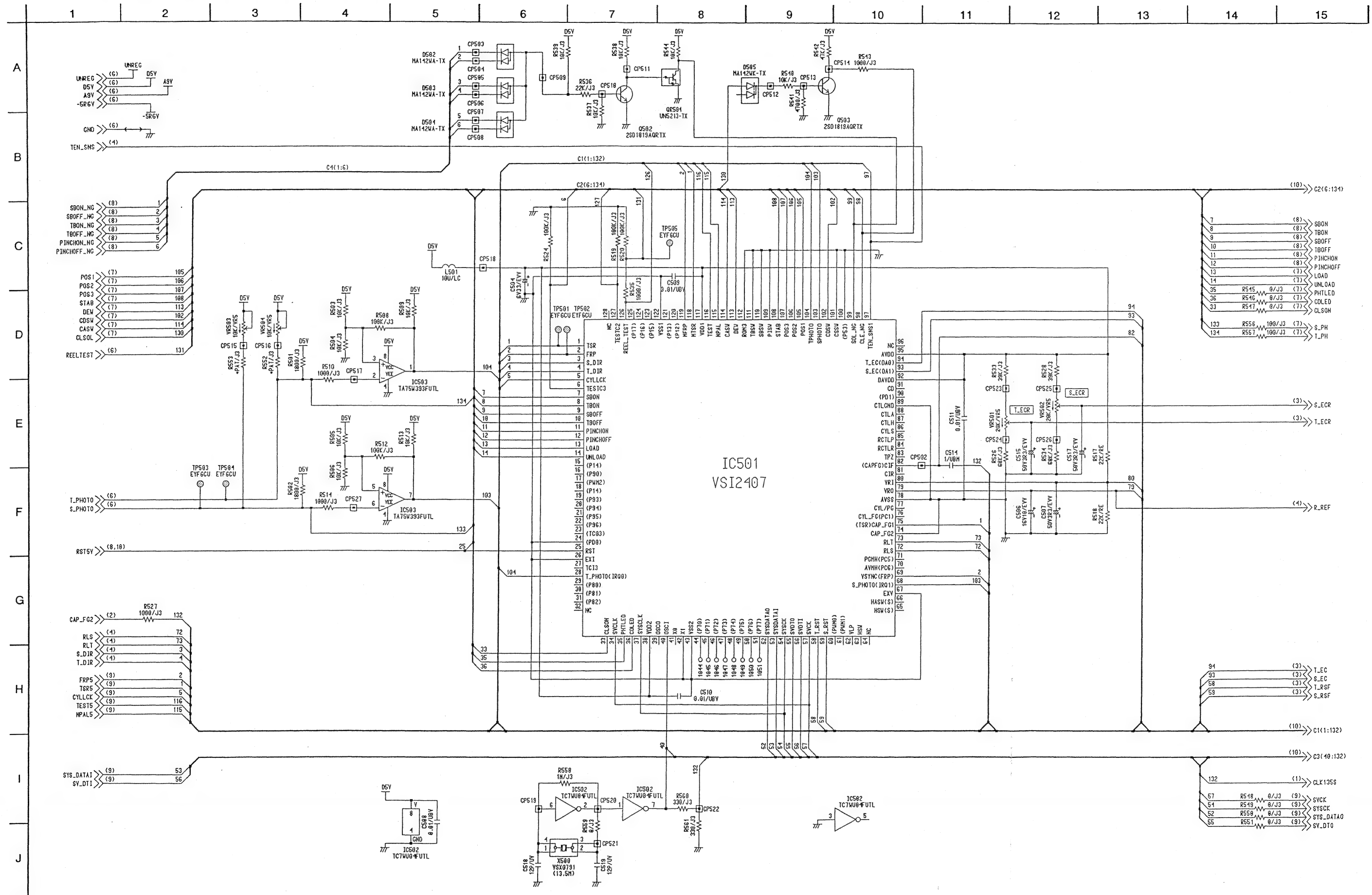
Output Signals (Right):

- Y.C_FC:** Output signal.
- S_TRQ:** Output signal.
- T_TRQ:** Output signal.

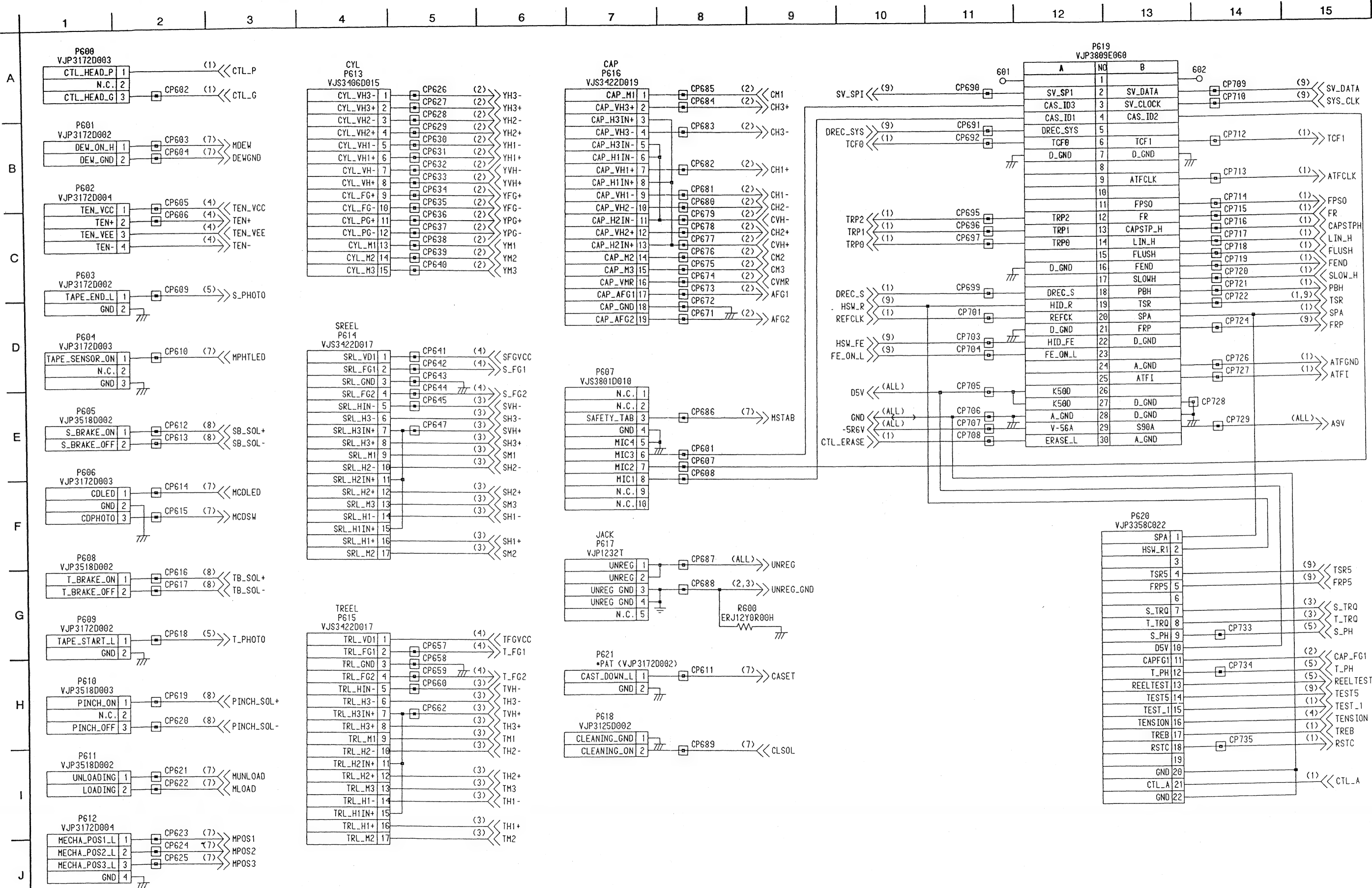
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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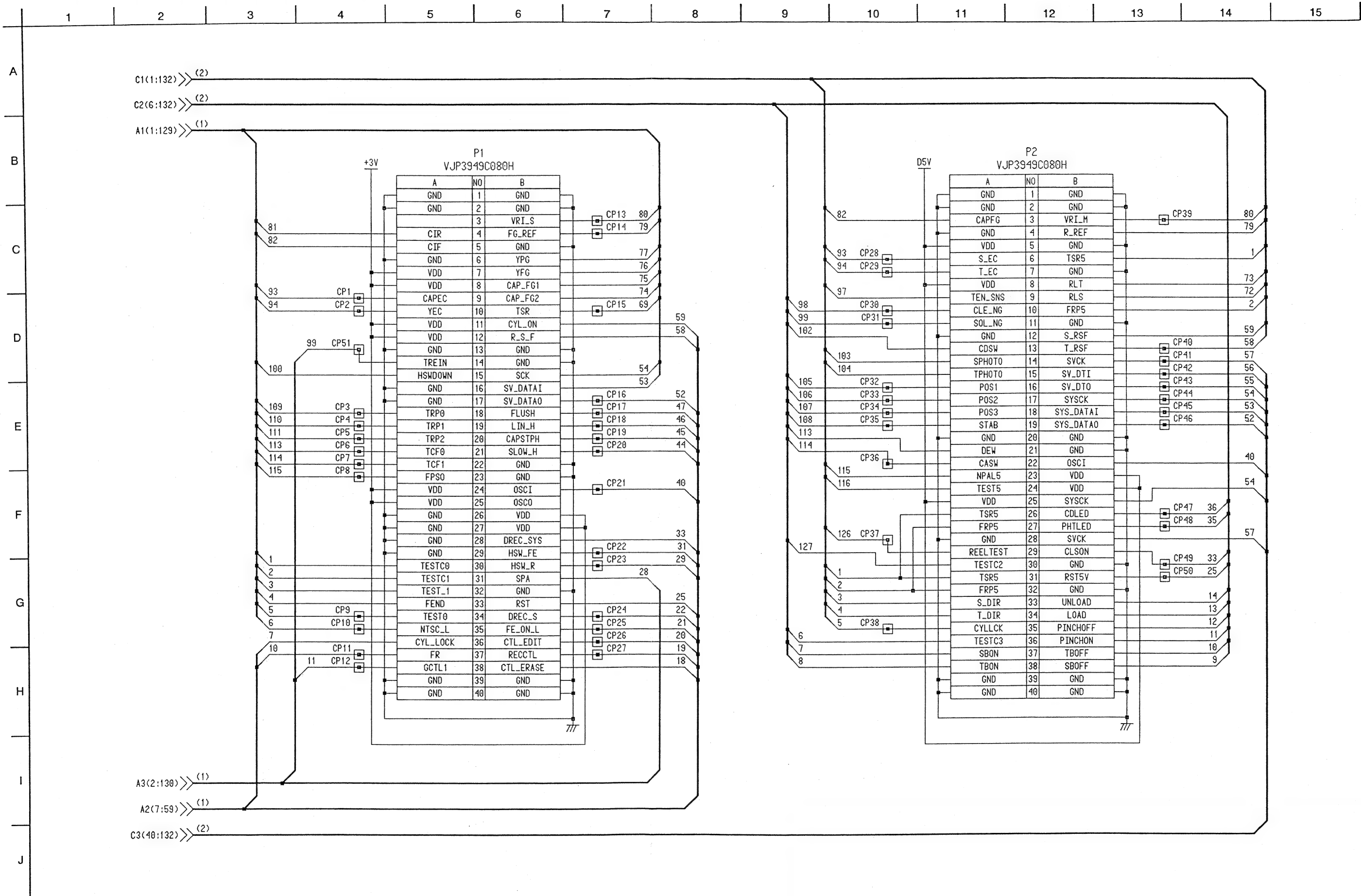
SERVO CONTROL (5/10) SCHEMATIC DIAGRAM



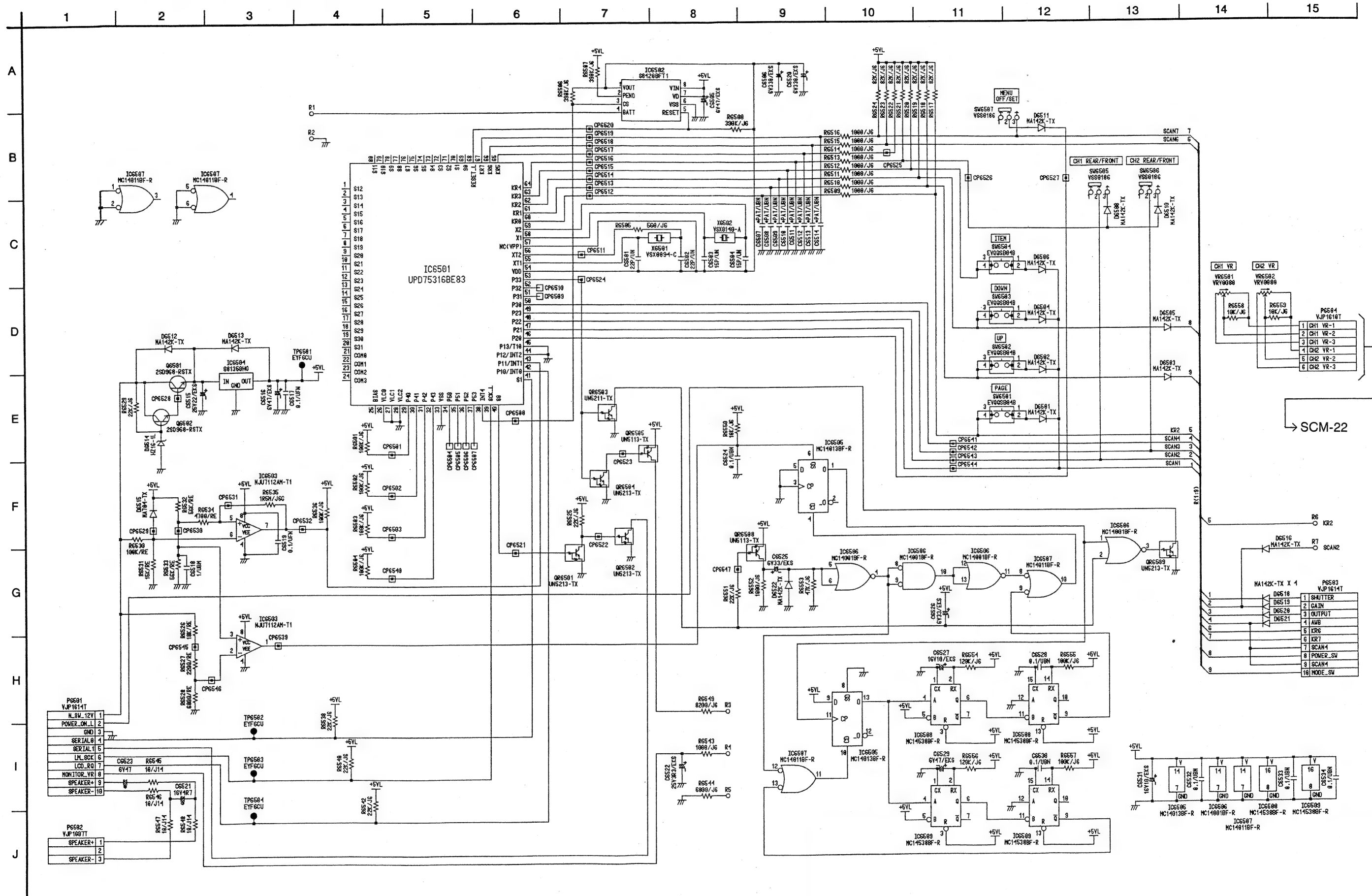
SERVO CONTROL (6/10) SCHEMATIC DIAGRAM



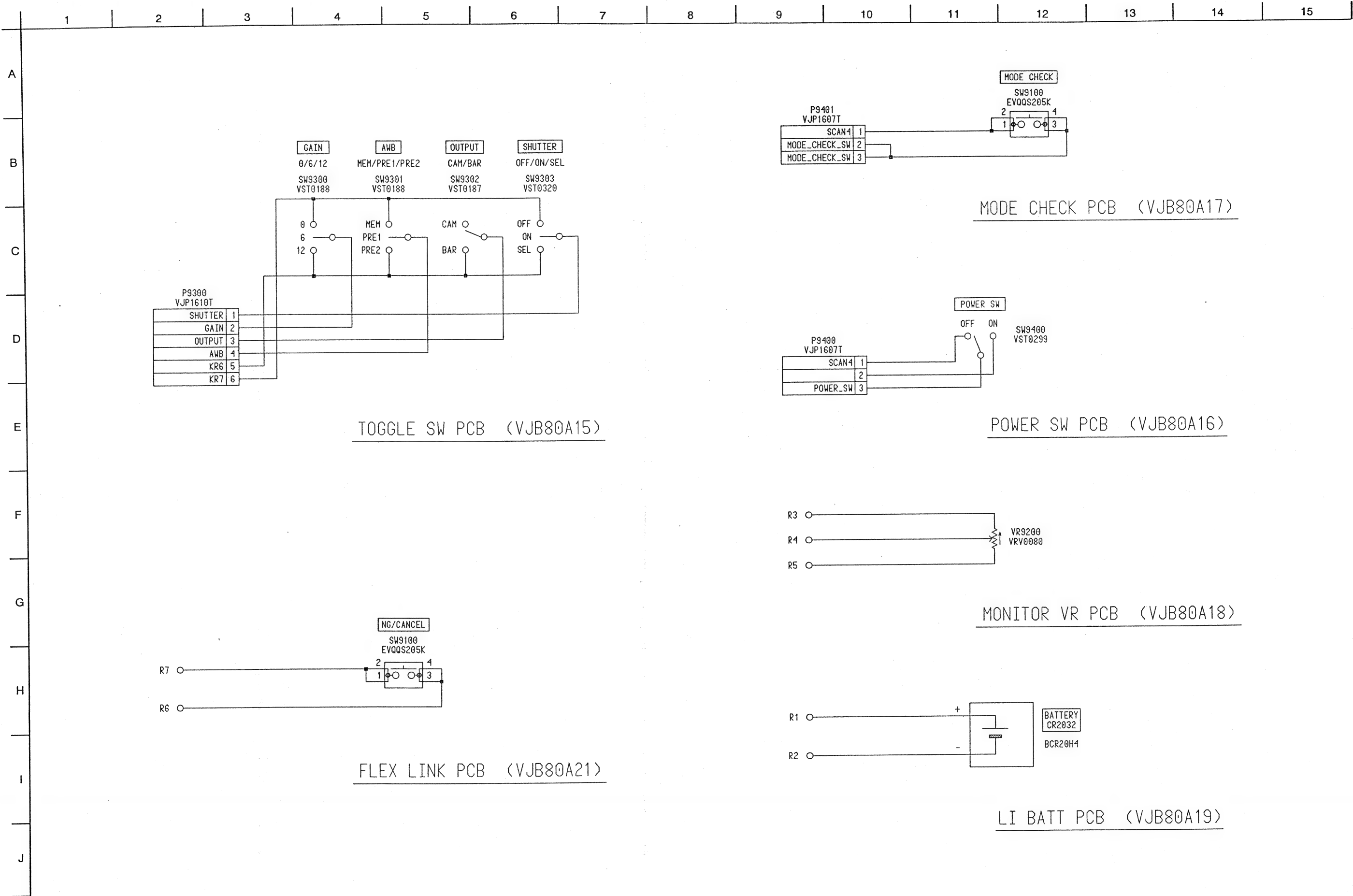
SERVO CONTROL (10/10) SCHEMATIC DIAGRAM



R SIDE MAIN SCHEMATIC DIAGRAM



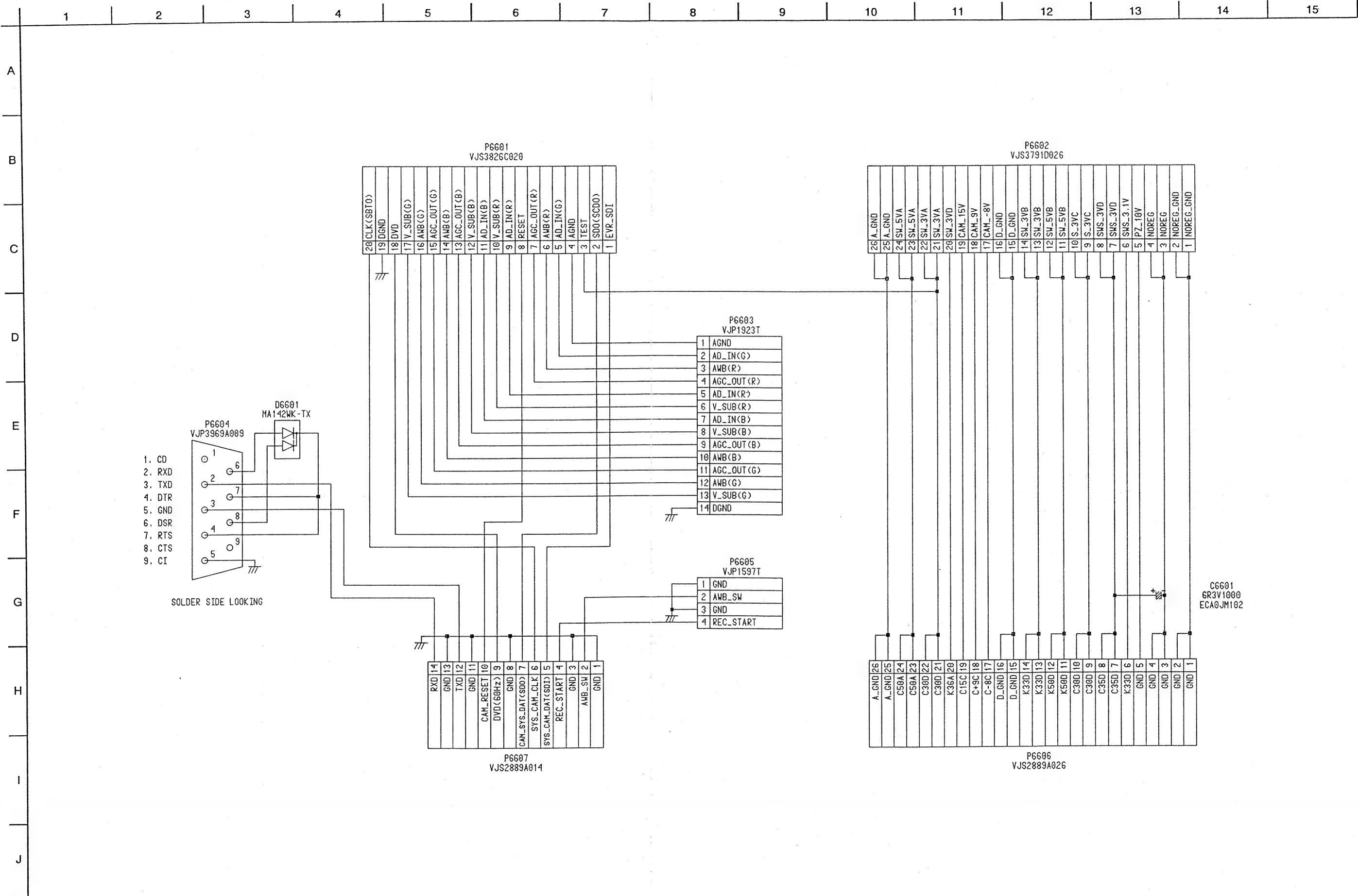
R SIDE SWITCHES SCHEMATIC DIAGRAM



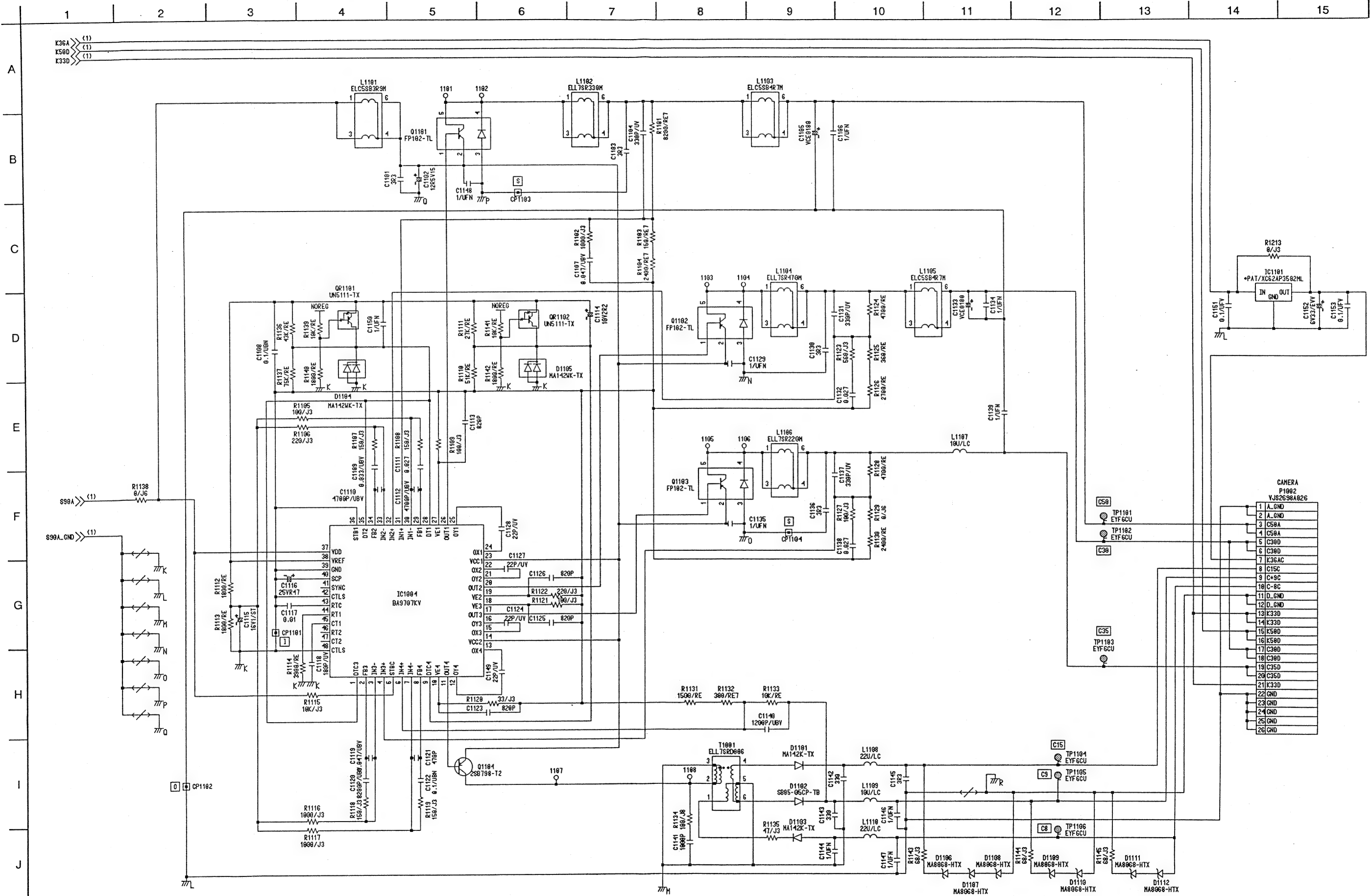
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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TEST CONNECTOR SCHEMATIC DIAGRAM

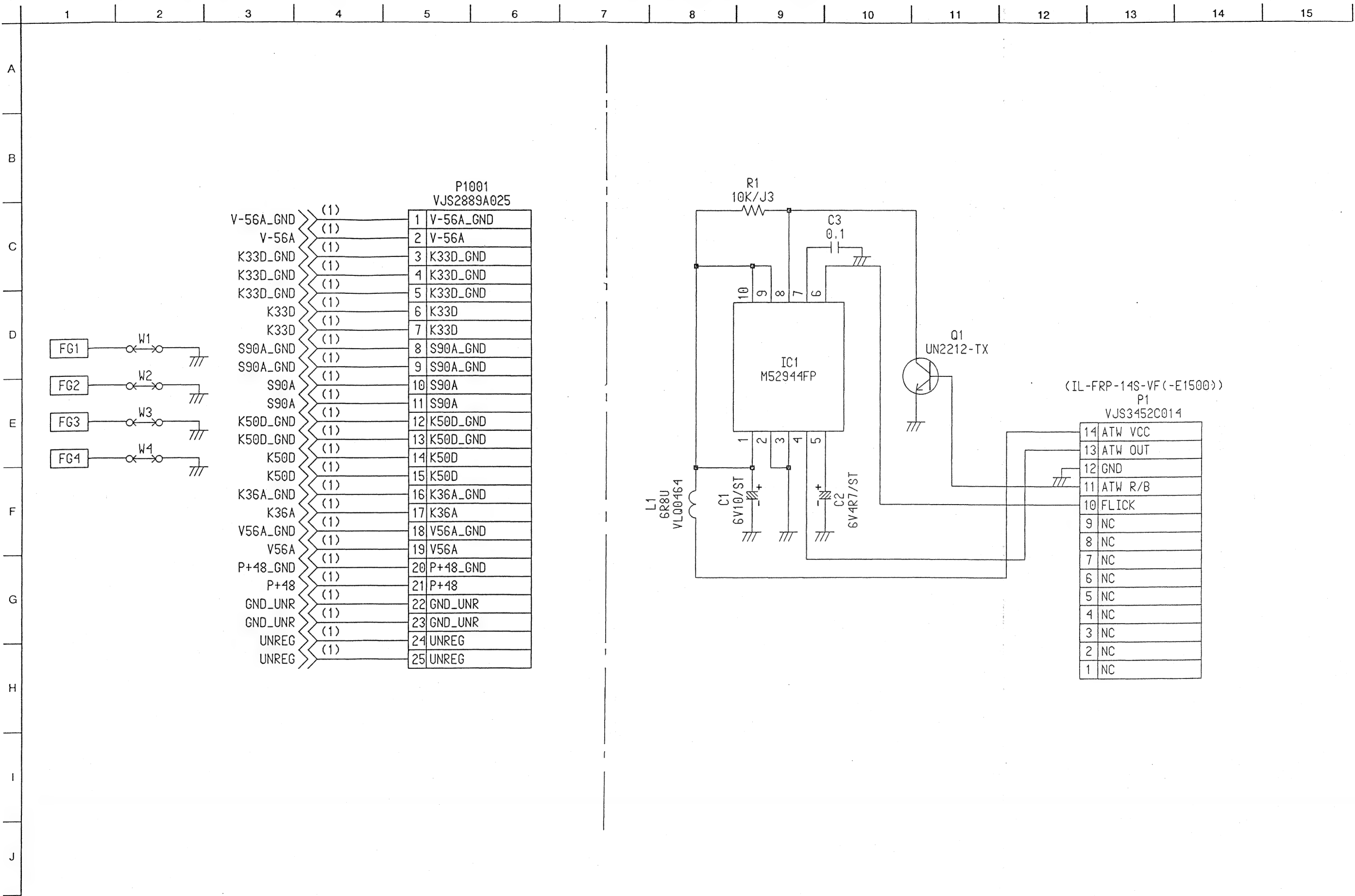


POWER (2/3) SCHEMATIC DIAGRAM

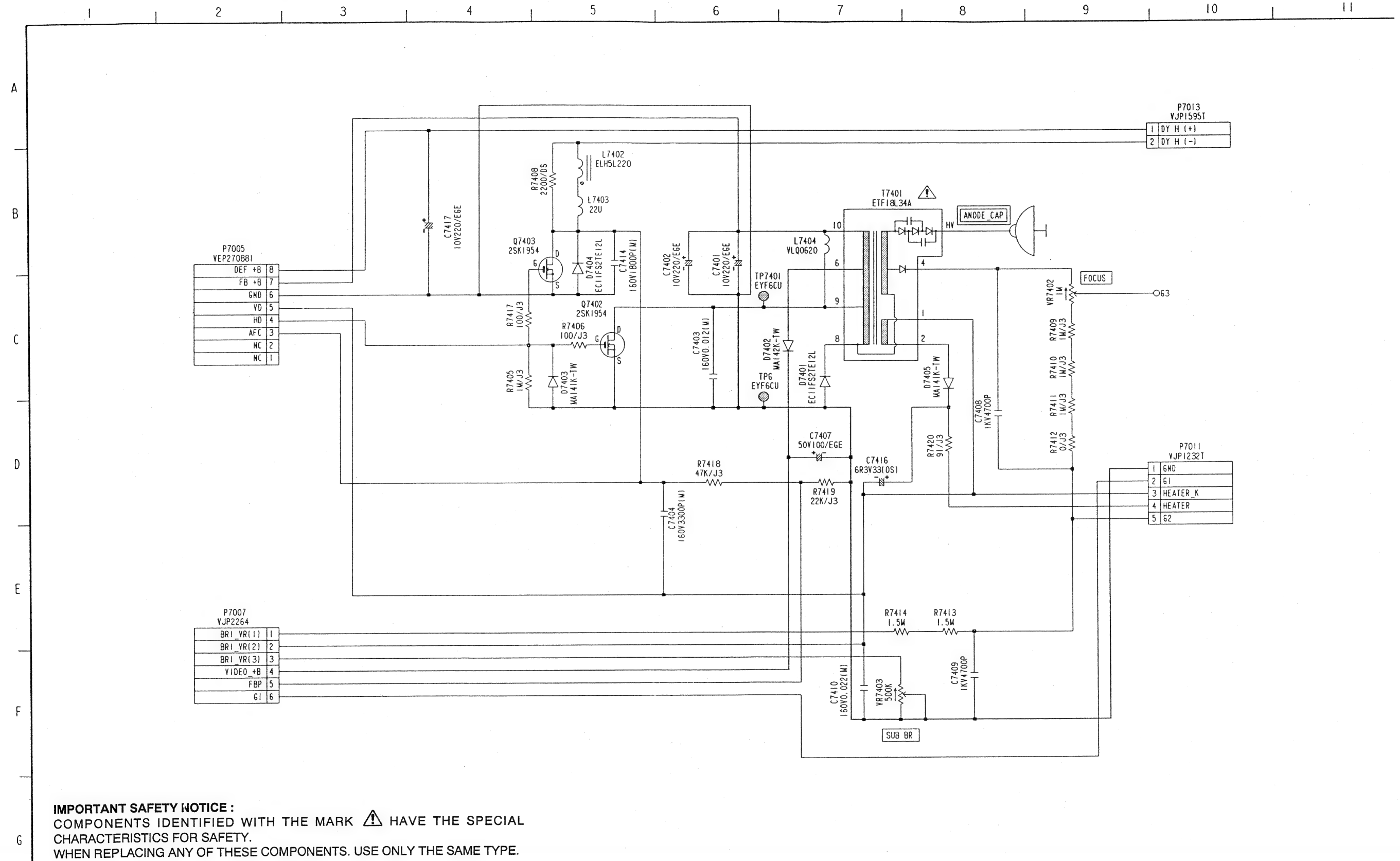


POWER (3/3) SCHEMATIC DIAGRAM

ATW SENSOR SCHEMATIC DIAGRAM

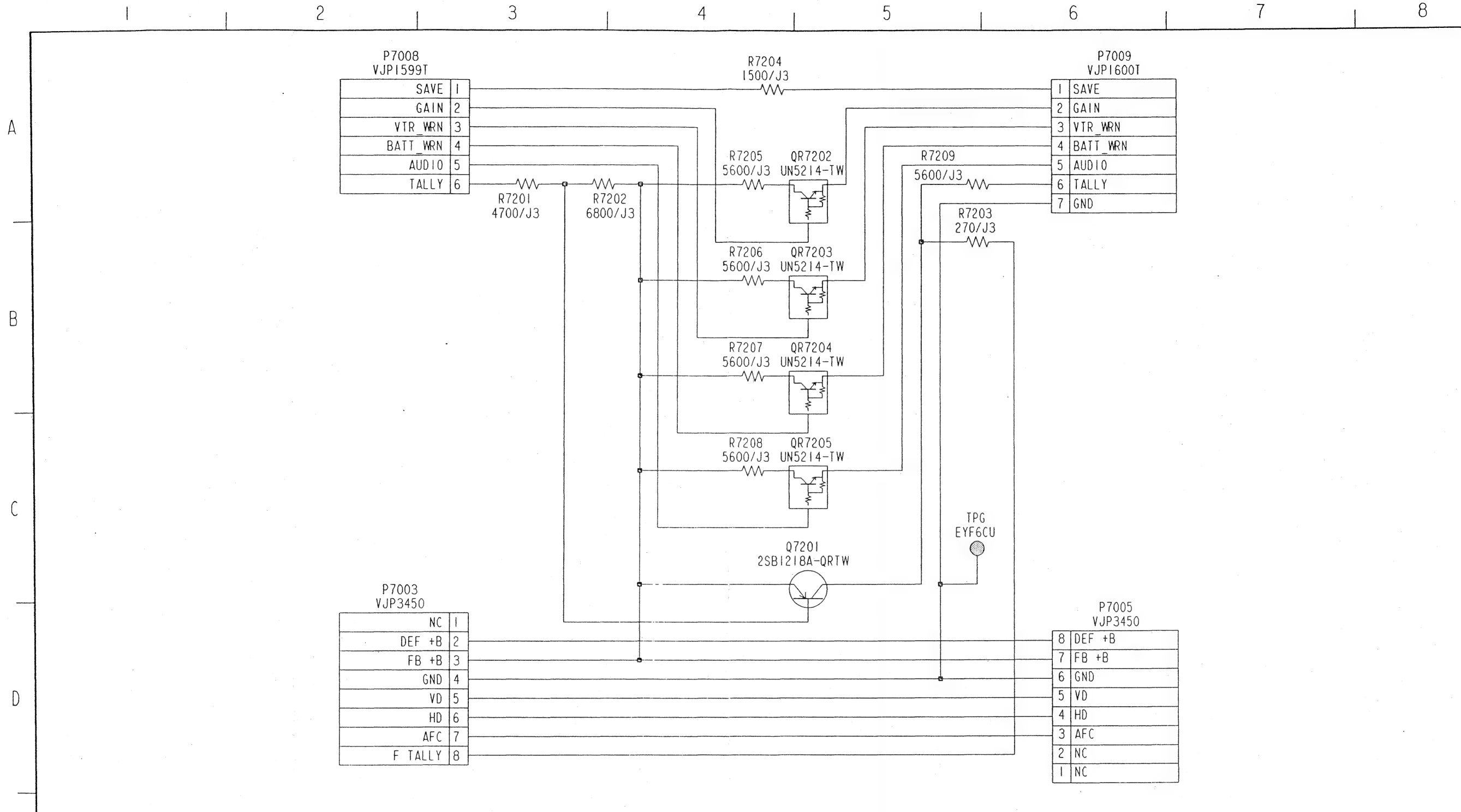


H DEF SCHEMATIC DIAGRAM

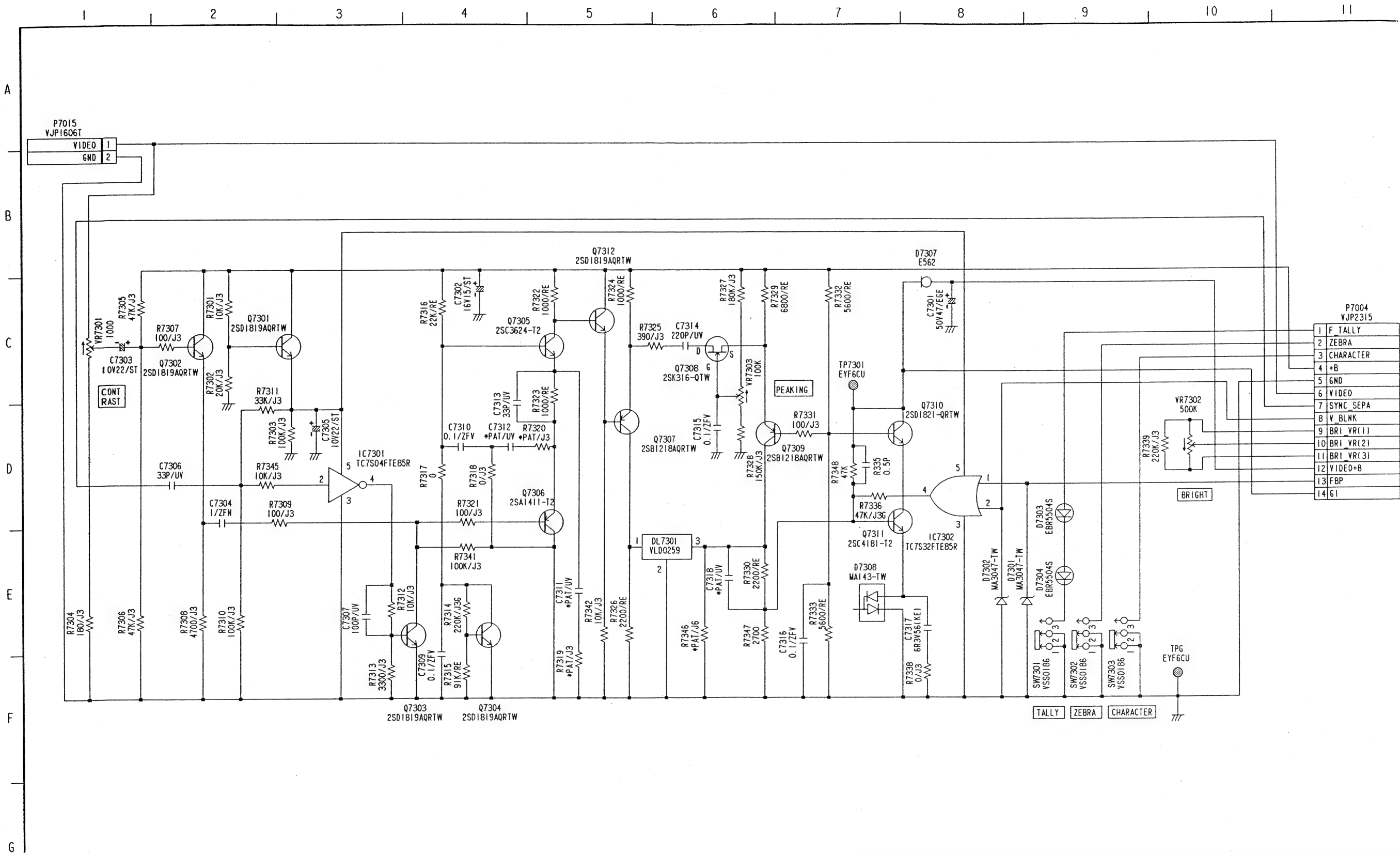


G

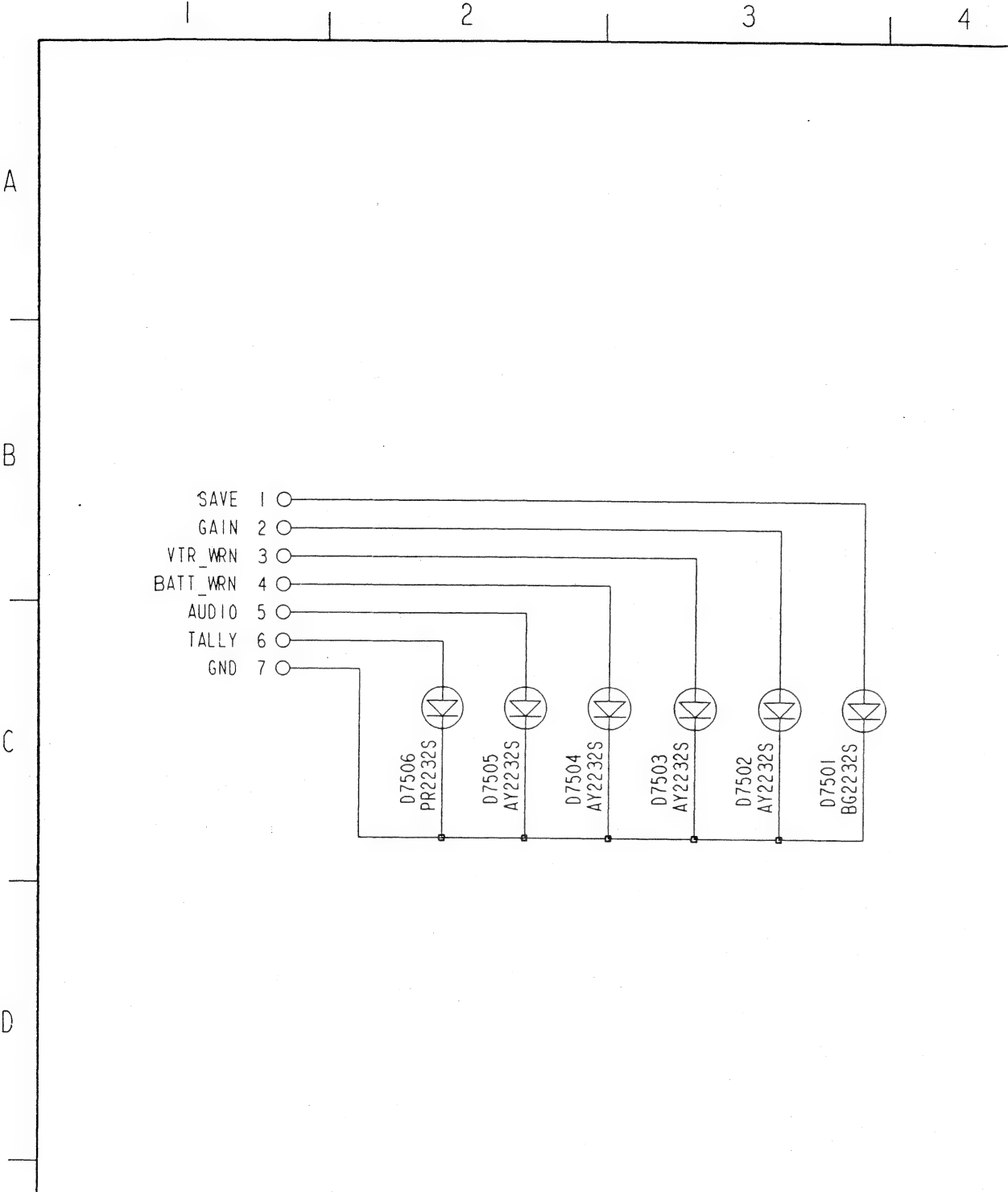
CN SCHEMATIC DIAGRAM



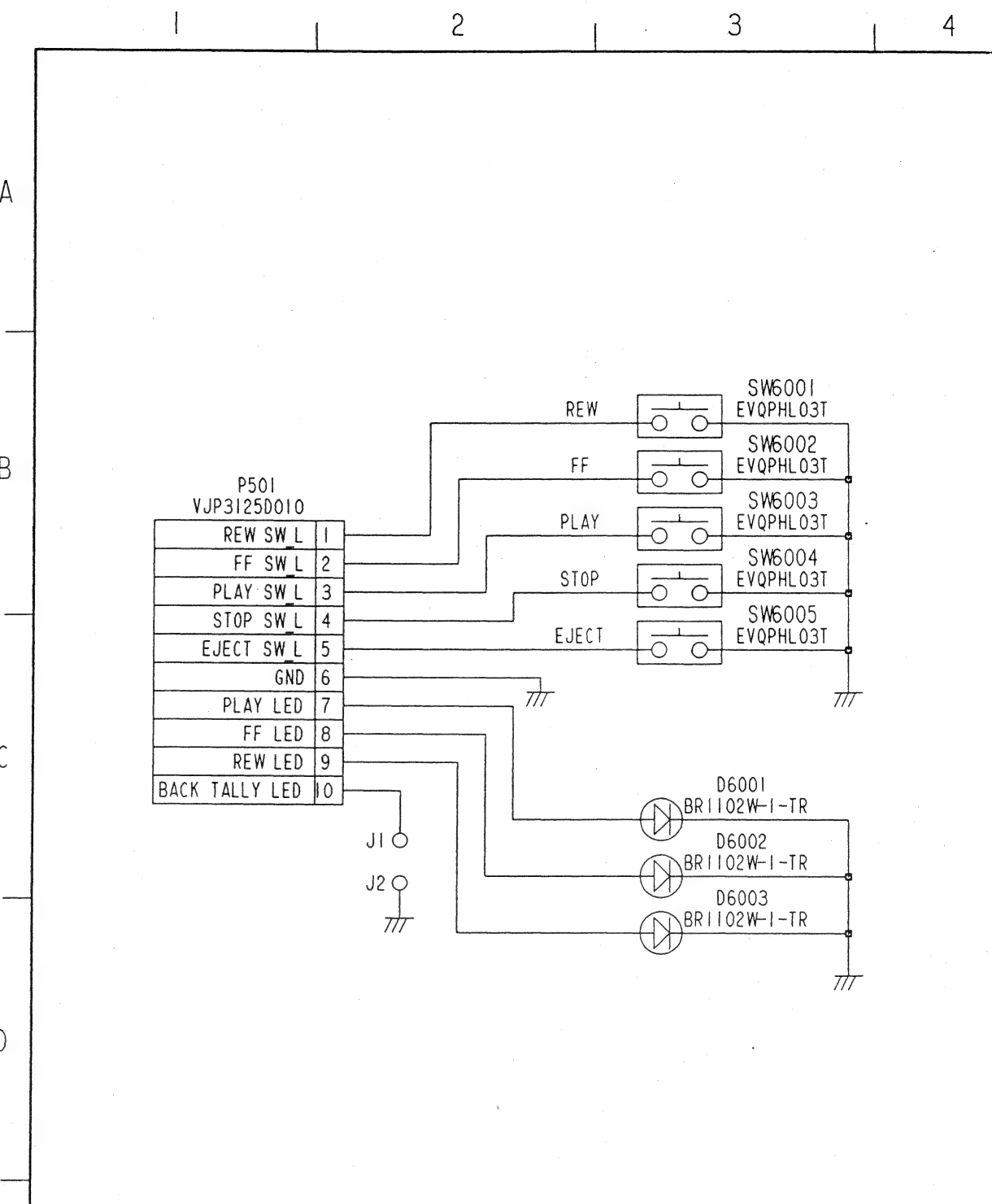
FRONT SCHEMATIC DIAGRAM



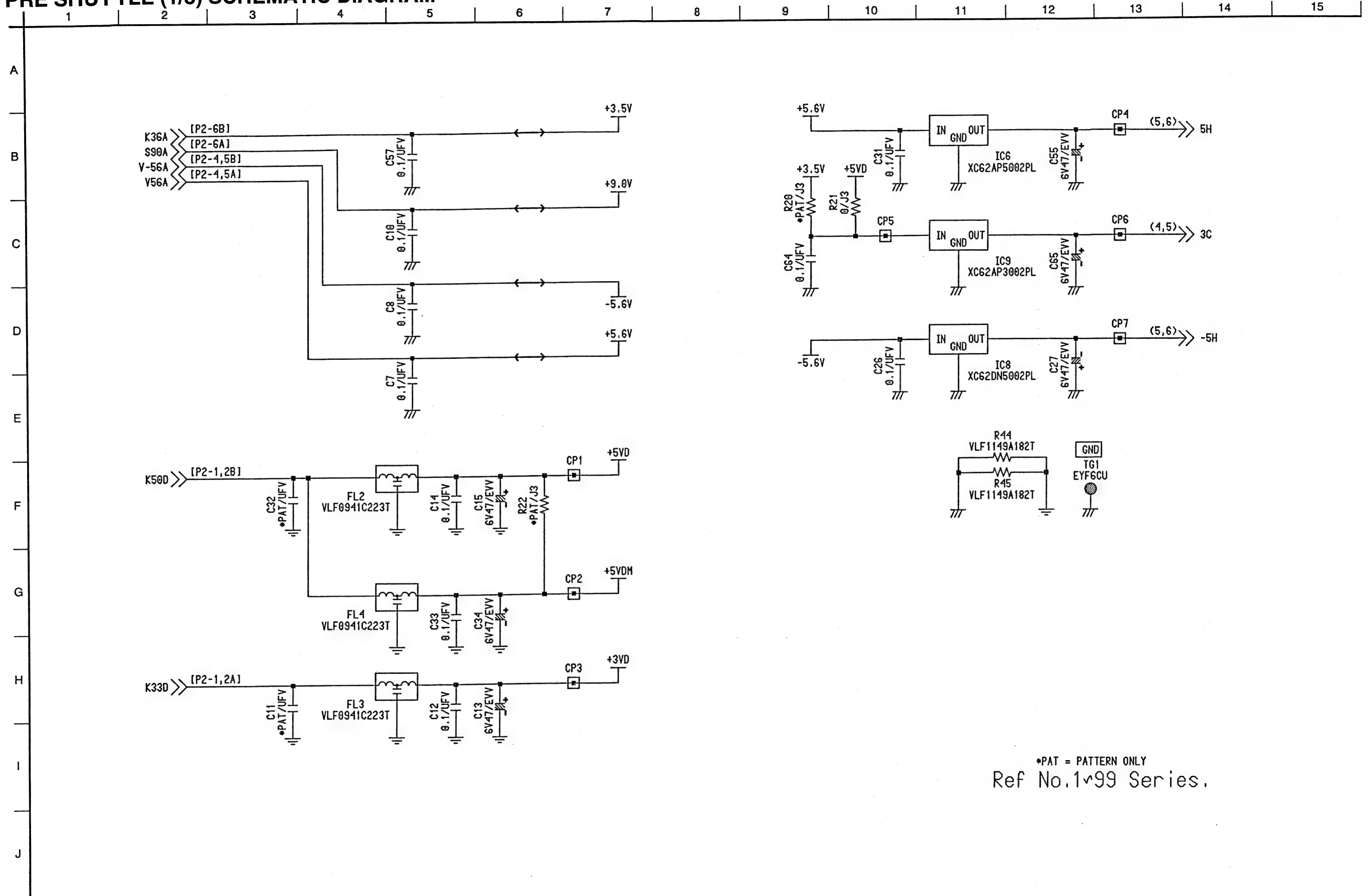
CRT MASK SCHEMATIC DIAGRAM



OPERATION SENSOR SCHEMATIC DIAGRAM

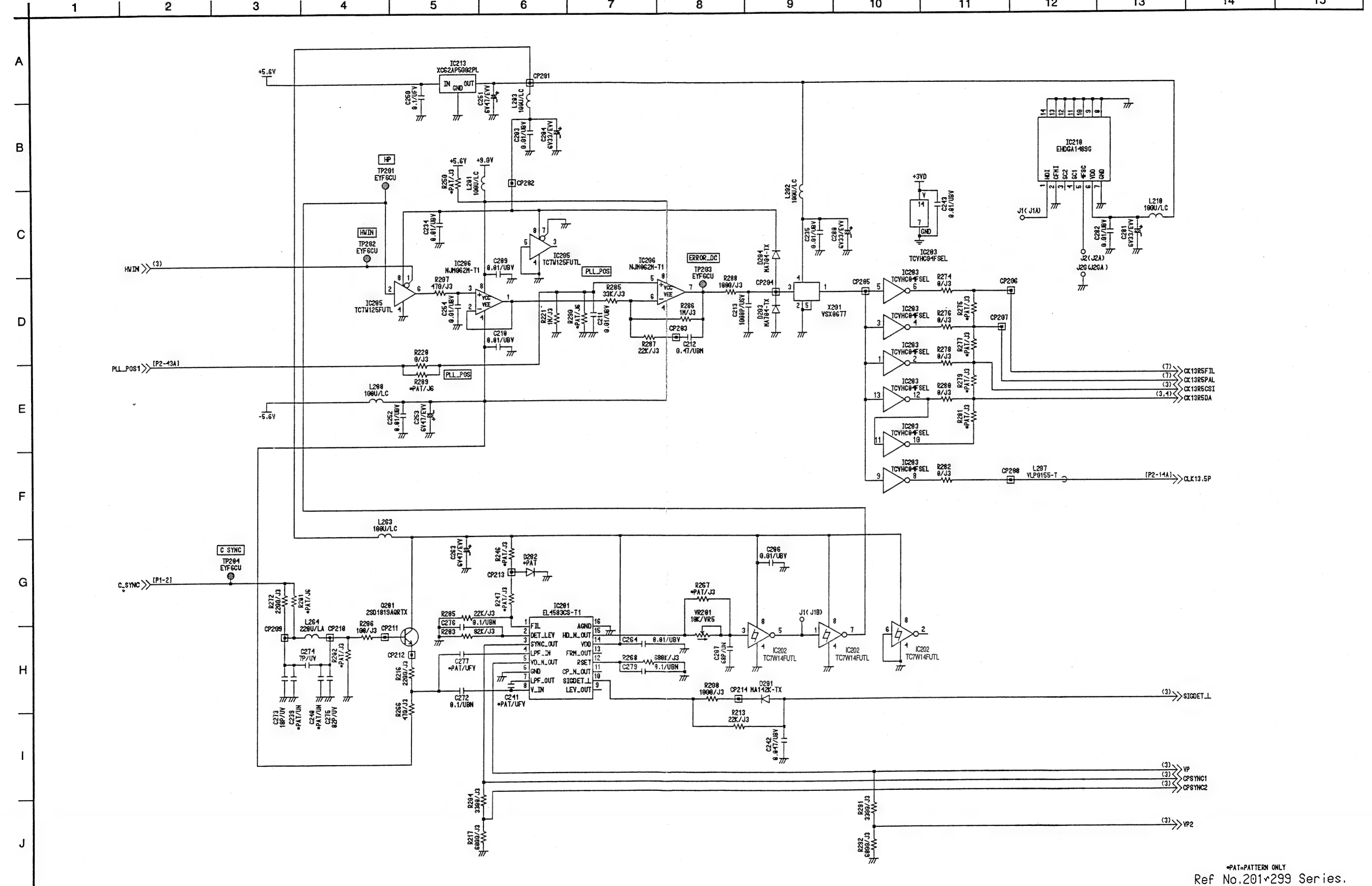


PRE SHUTTLE (1/8) SCHEMATIC DIAGRAM



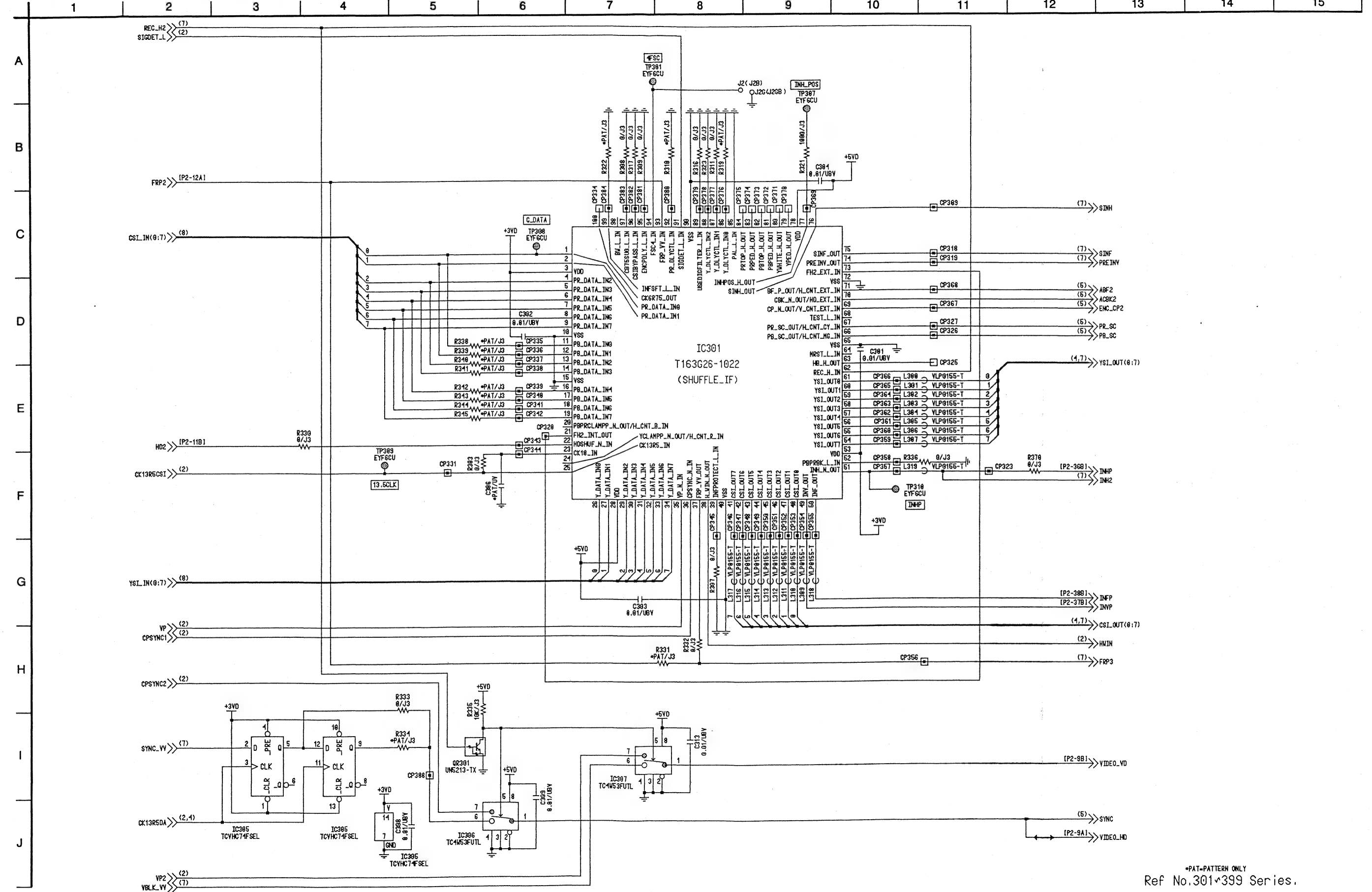
•PAT = PATTERN ONLY
Ref No.1~99 Series.

PRE SHUTTLE (2/8) SCHEMATIC DIAGRAM



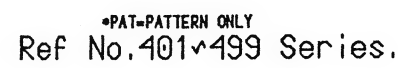
*PAT=PATTERN ONLY
Ref No.201*299 Series.

PRE SHUTTLE (3/8) SCHEMATIC DIAGRAM

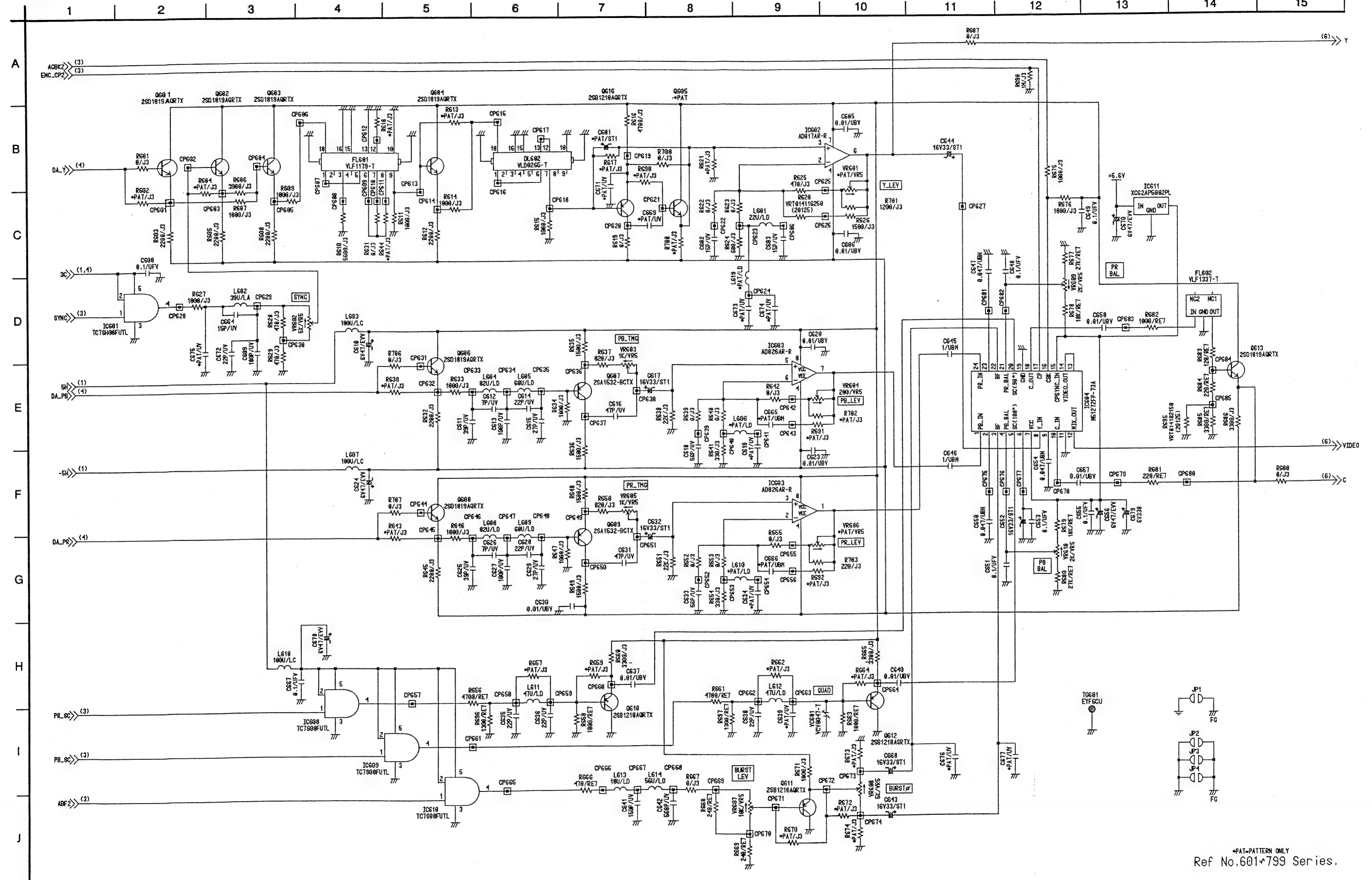


*PAT-PATTERN ONLY
Ref No.301~399 Series.

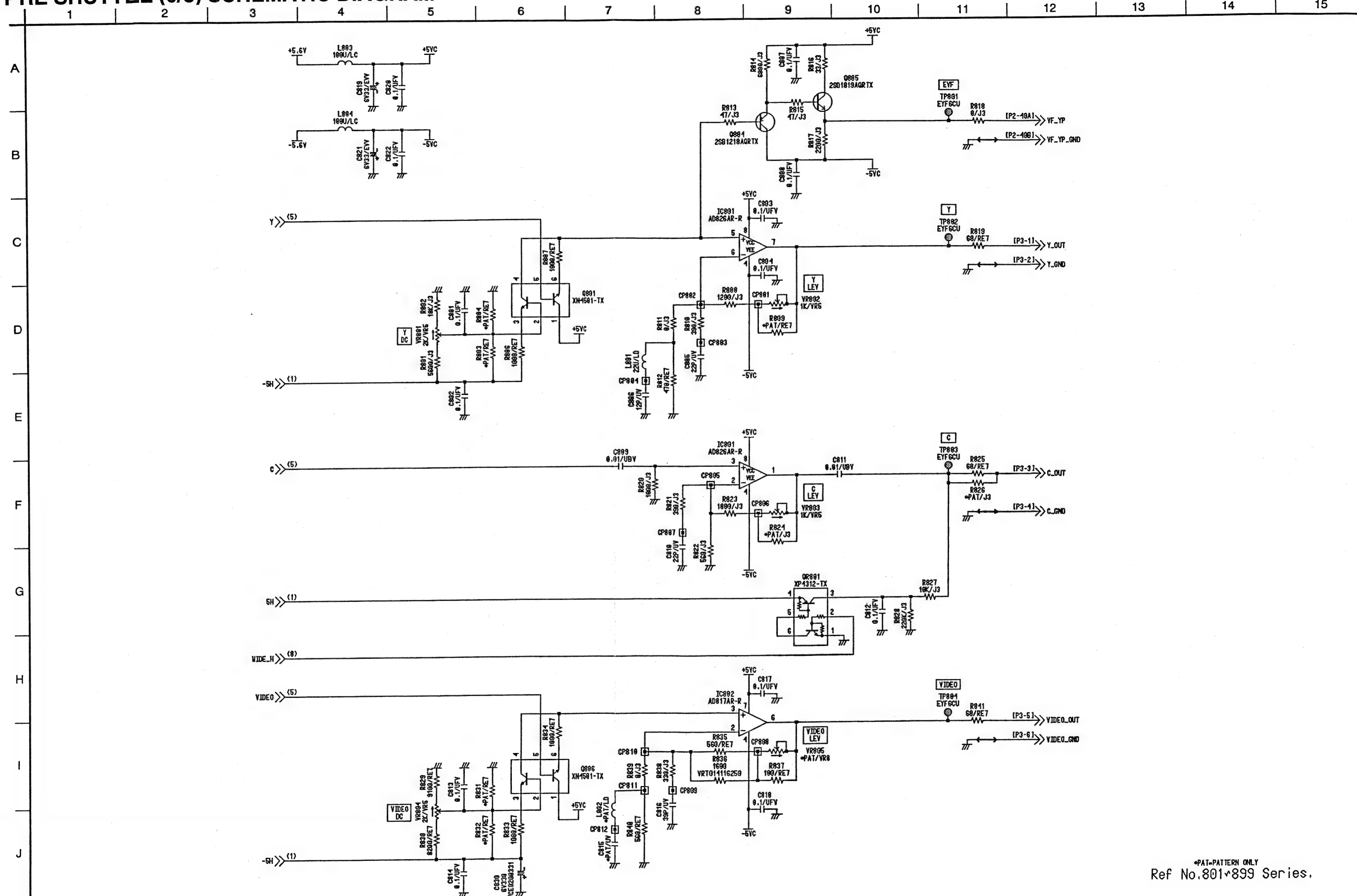
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PRE SHUTTLE (5/8) SCHEMATIC DIAGRAM

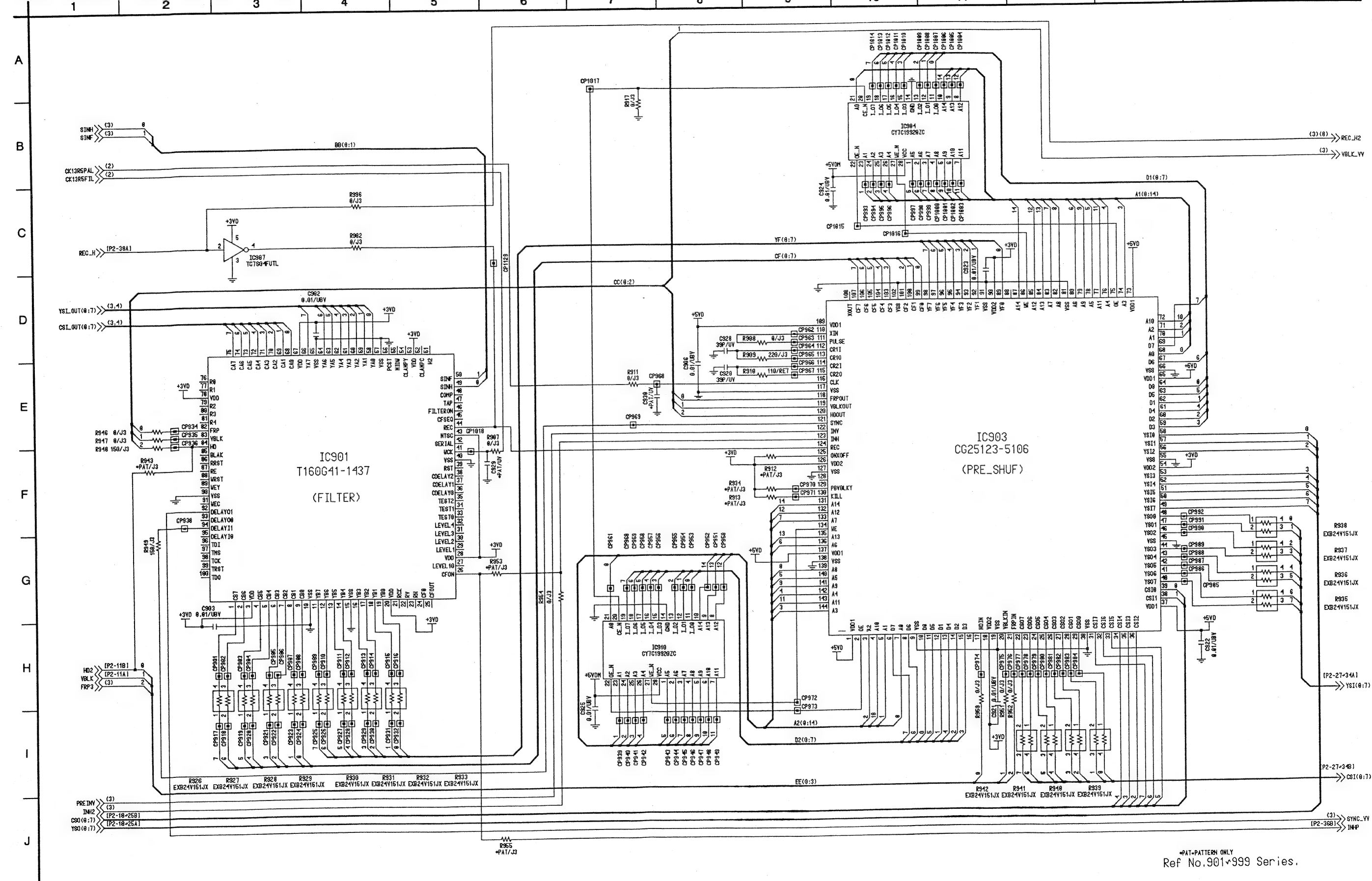


PRE SHUTTLE (6/8) SCHEMATIC DIAGRAM

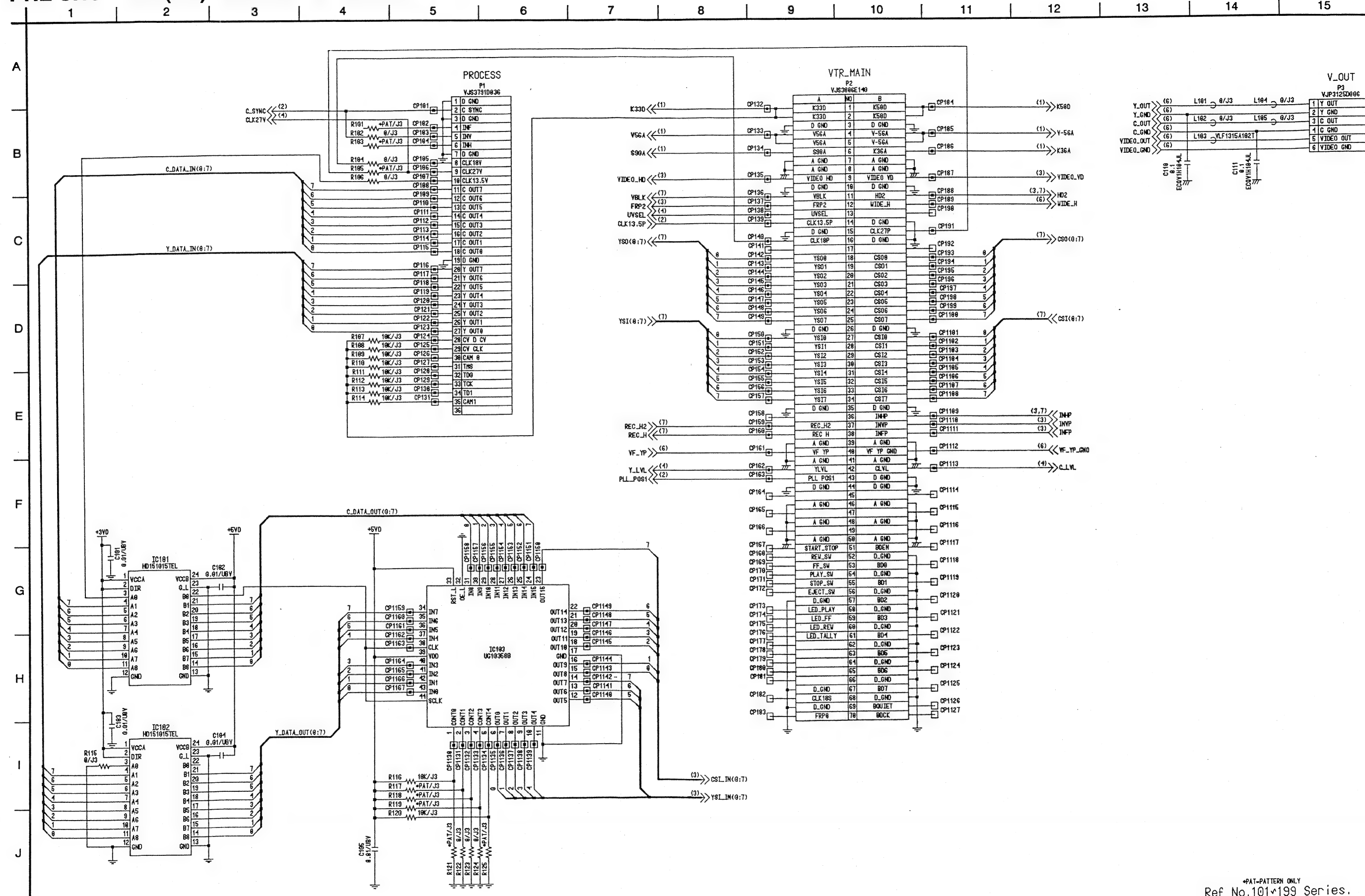


*PAT=PATTERN ONLY
Ref No.801~899 Series.

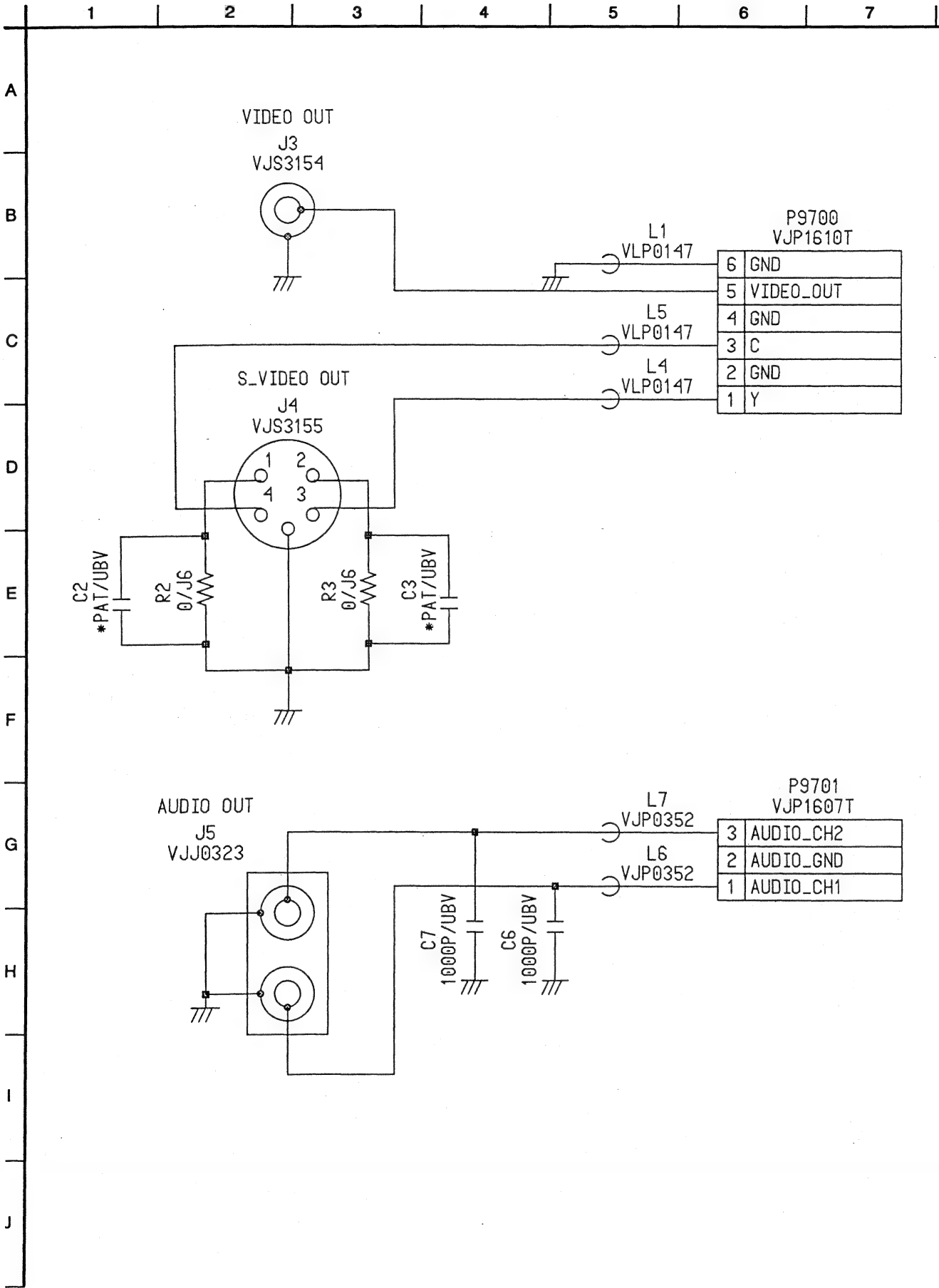
PRE SHUTTLE (7/8) SCHEMATIC DIAGRAM



PRE SHUTTLE (8/8) SCHEMATIC DIAGRAM



AV OUT SCHEMATIC DIAGRAM



SECTION 7


CIRCUIT BOARD DIAGRAMS

CONTENTS

VIDEO MAIN P.C.BOARD	CBA-2
SERVO P.C.BOARD	CBA-3
POWER P.C.BOARD	CBA-4
AUDIO AGC P.C.BOARD	CBA-4
REAR JACK P.C.BOARD	CBA-4
S-SIDE P.C.BOARD	CBA-5
TEST CONNECTOR P.C.BOARD	CBA-5
AV OUT P.C.BOARD	CBA-5
DC INPUT P.C.BOARD	CBA-5
SENSOR (SENSOR, ANALOG PRE PROCESS Section) C.B.A.	CBA-6
PROCESS (PROCESS, LENS DRIVE Section) C.B.A.	CBA-7
CCD D.B.A. CBA	CBA-8
PRE SHUFFLE P.C.BOARD	CBA-9
H DEF P.C.BOARD	CBA-10
V DEF P.C.BOARD	CBA-10
CN P.C.BOARD	CBA-11
FRONT P.C.BOARD	CBA-11
CRT MASK P.C.BOARD	CBA-11

NOTE

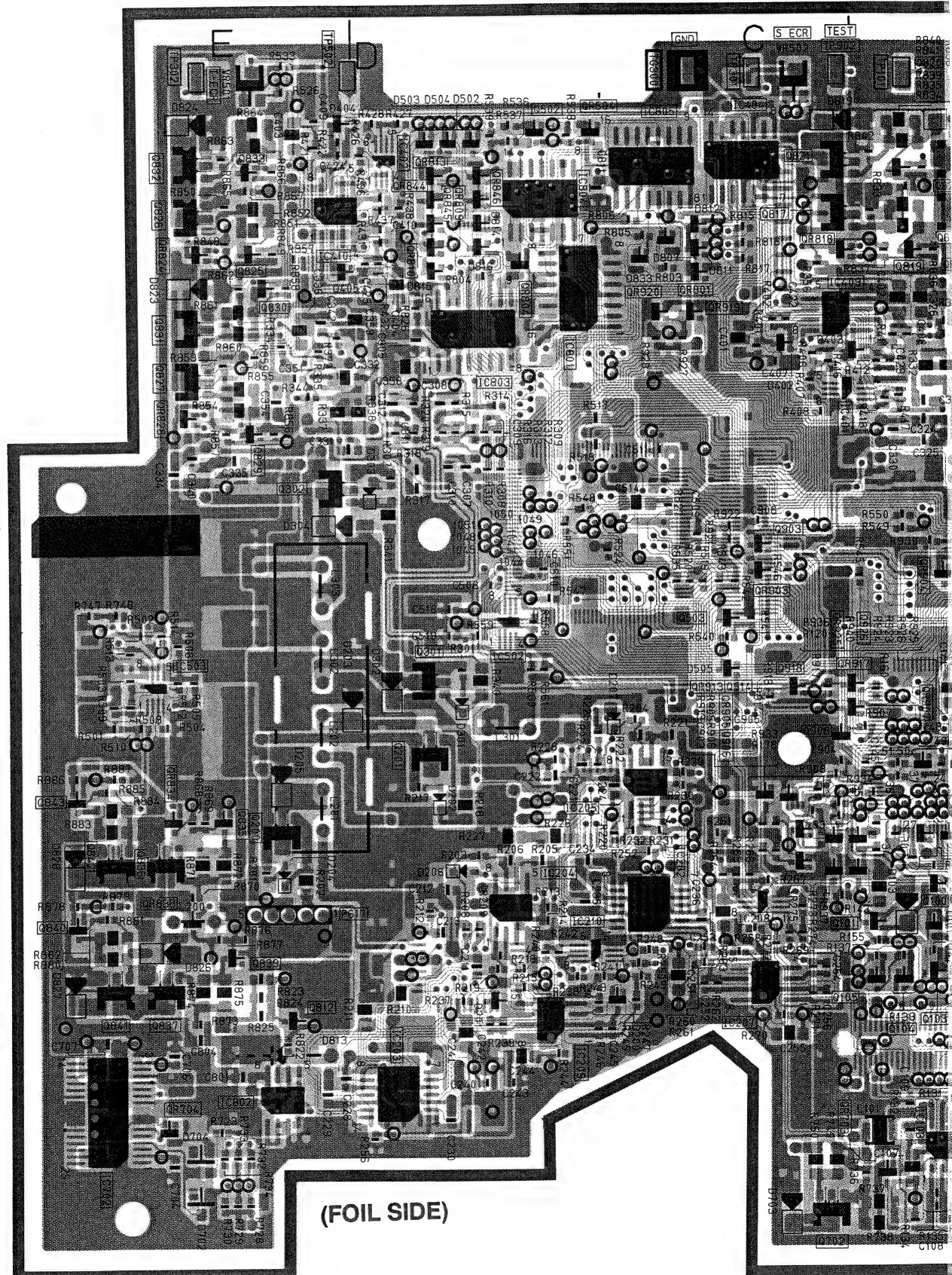
IMPORTANT SAFETY NOTICE

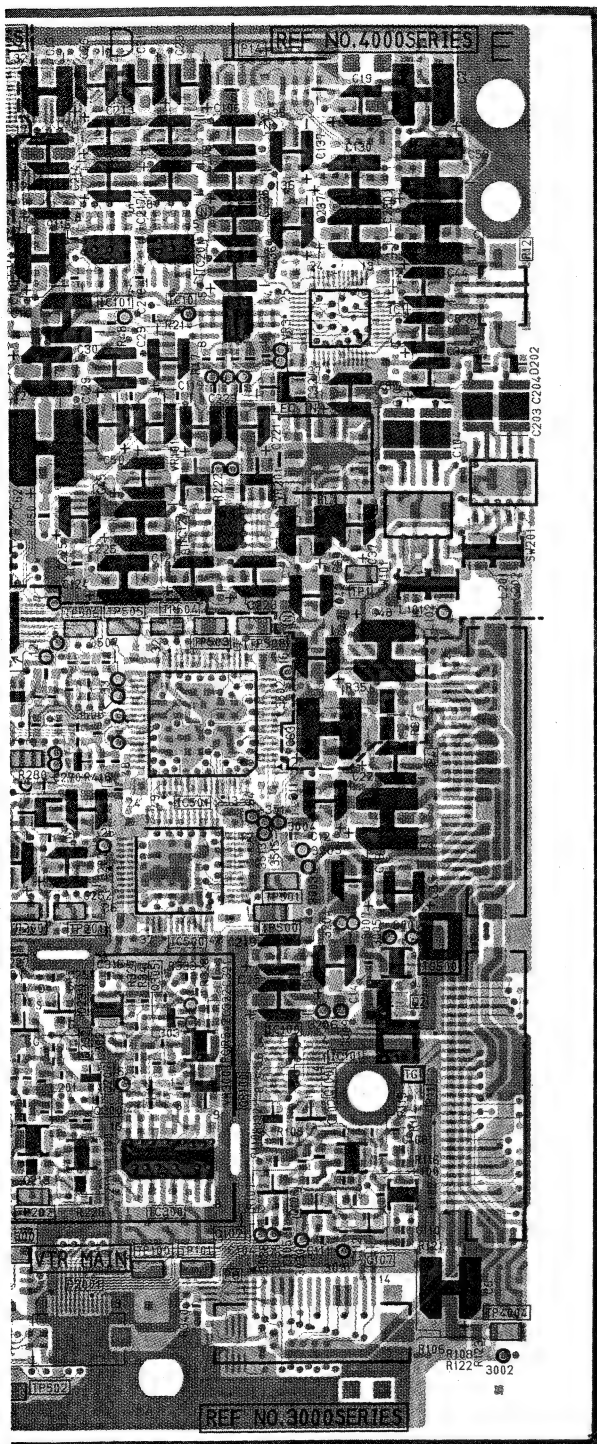
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.

WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

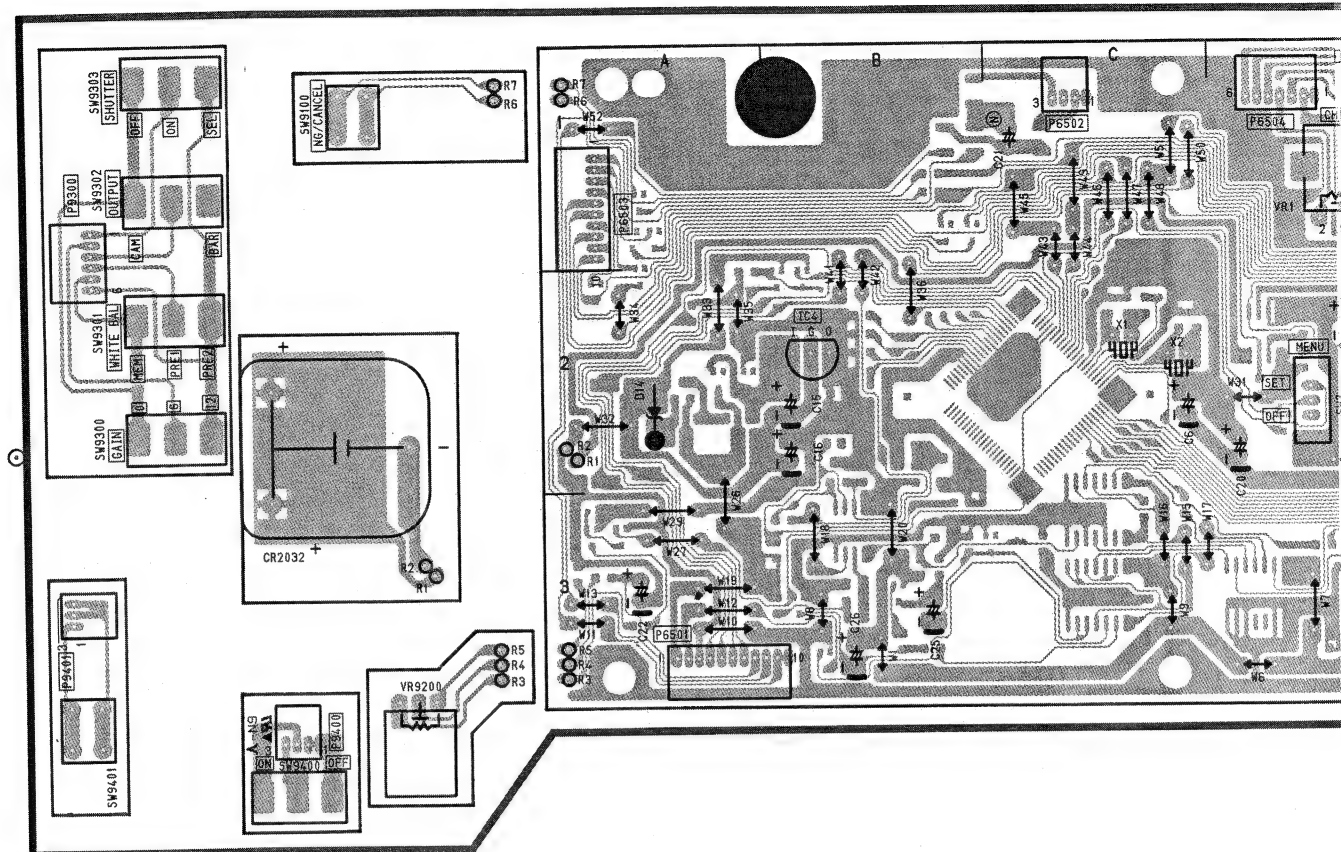
DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE
CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST.
AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED

SERVO P.C.BOARD

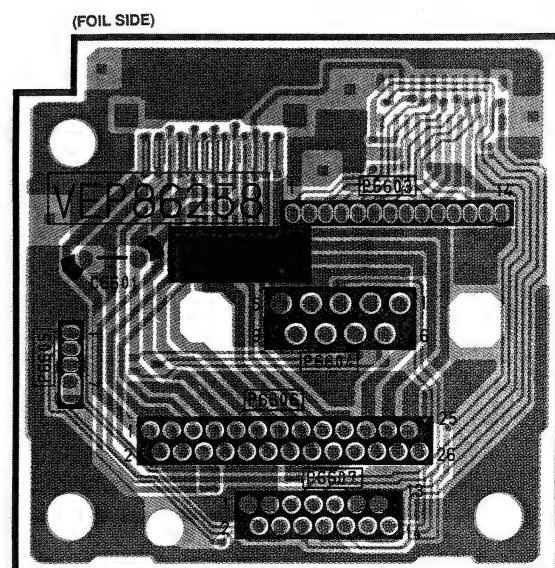
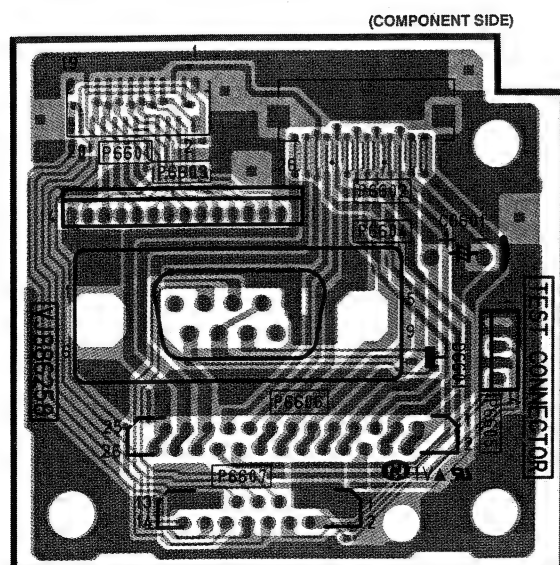




S-SIDE P.C.BOARD

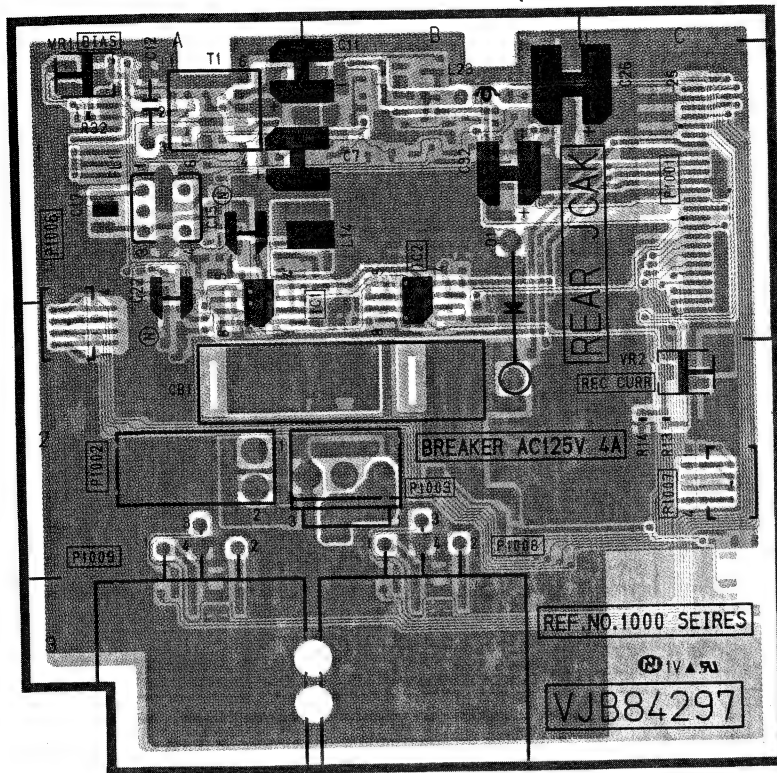


TEST CONNECTOR P.C.BOARD

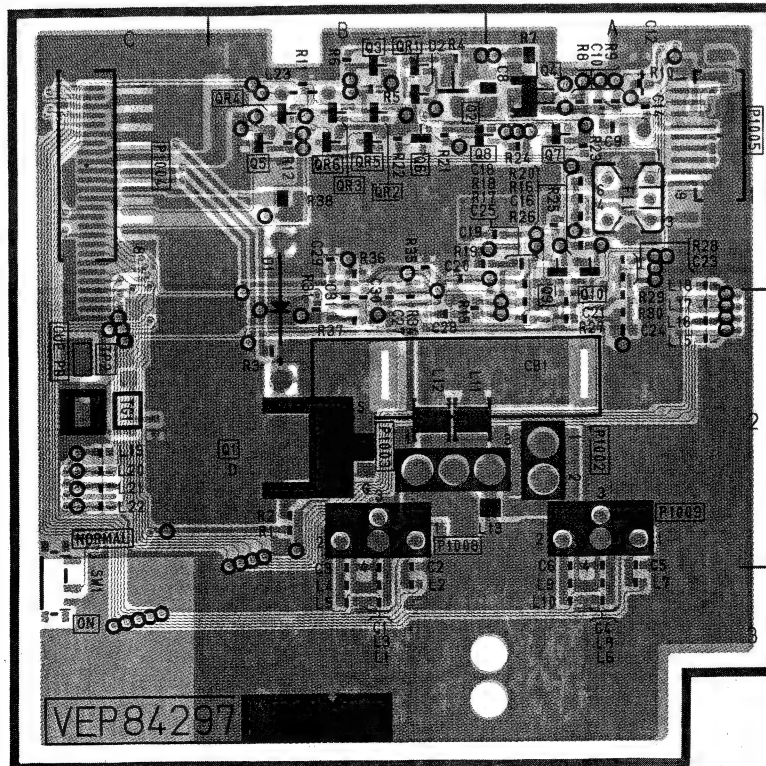


REAR JACK P.C.BOARD

(COMPONENT SIDE)

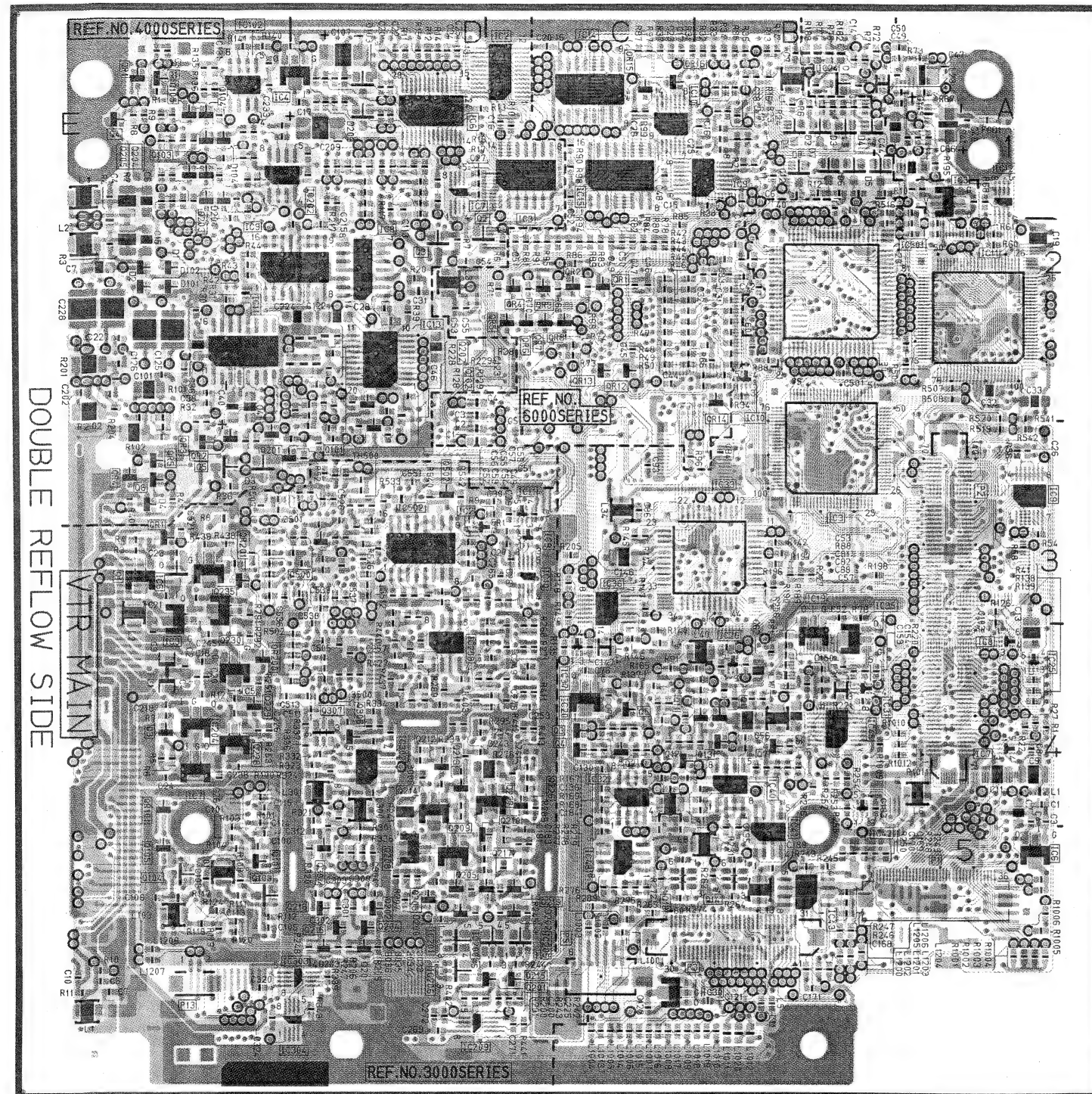


(FOIL SIDE)

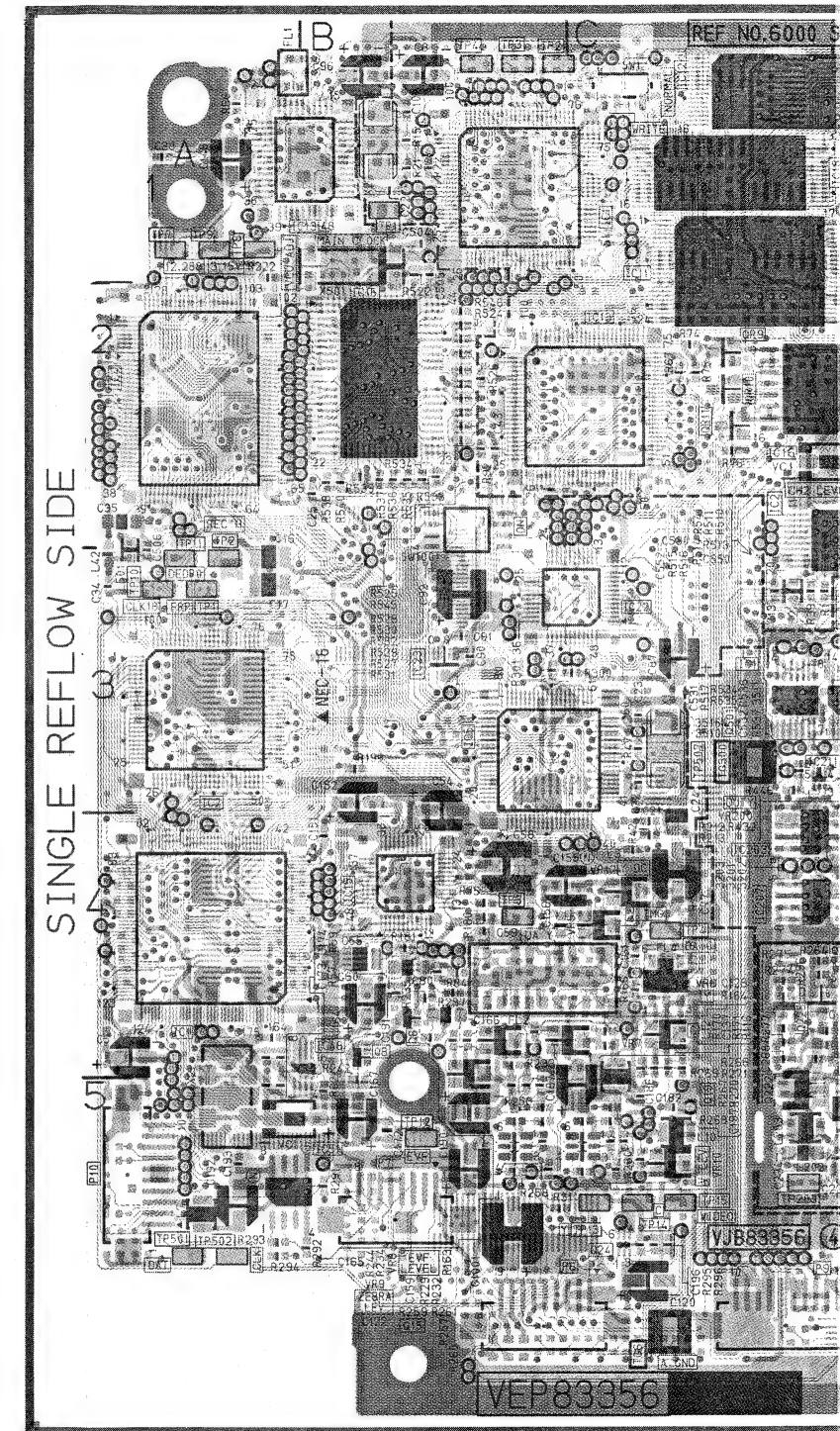


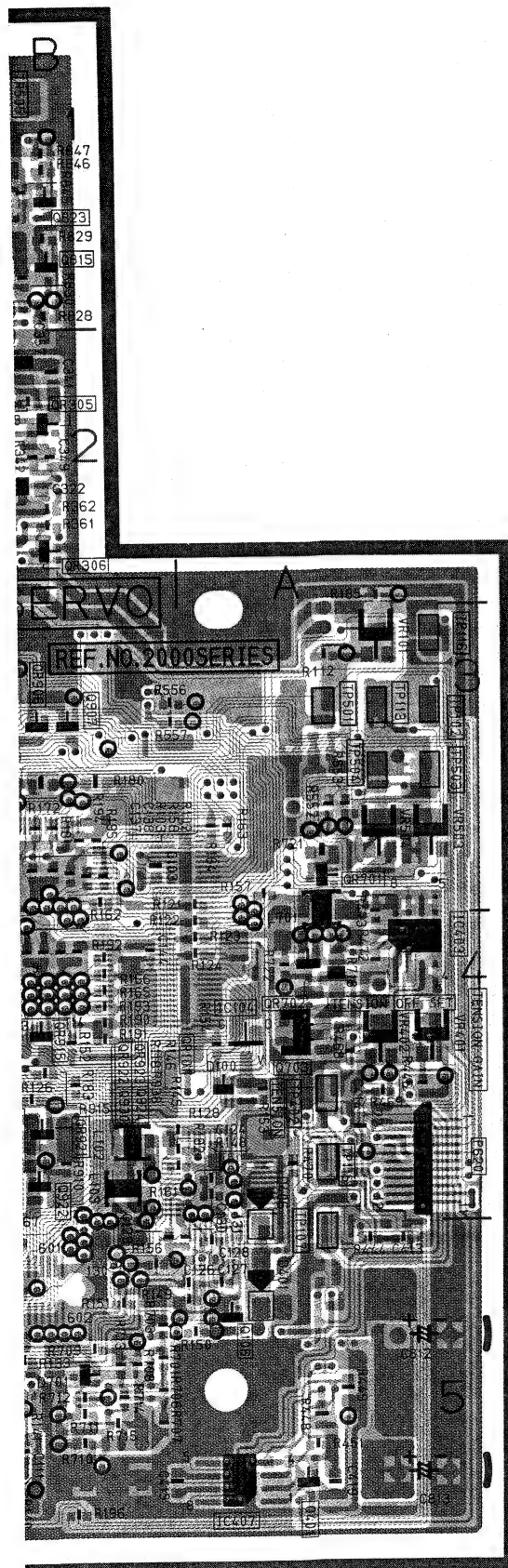
VIDEO MAIN P.C.BOARD

(FOIL SIDE)

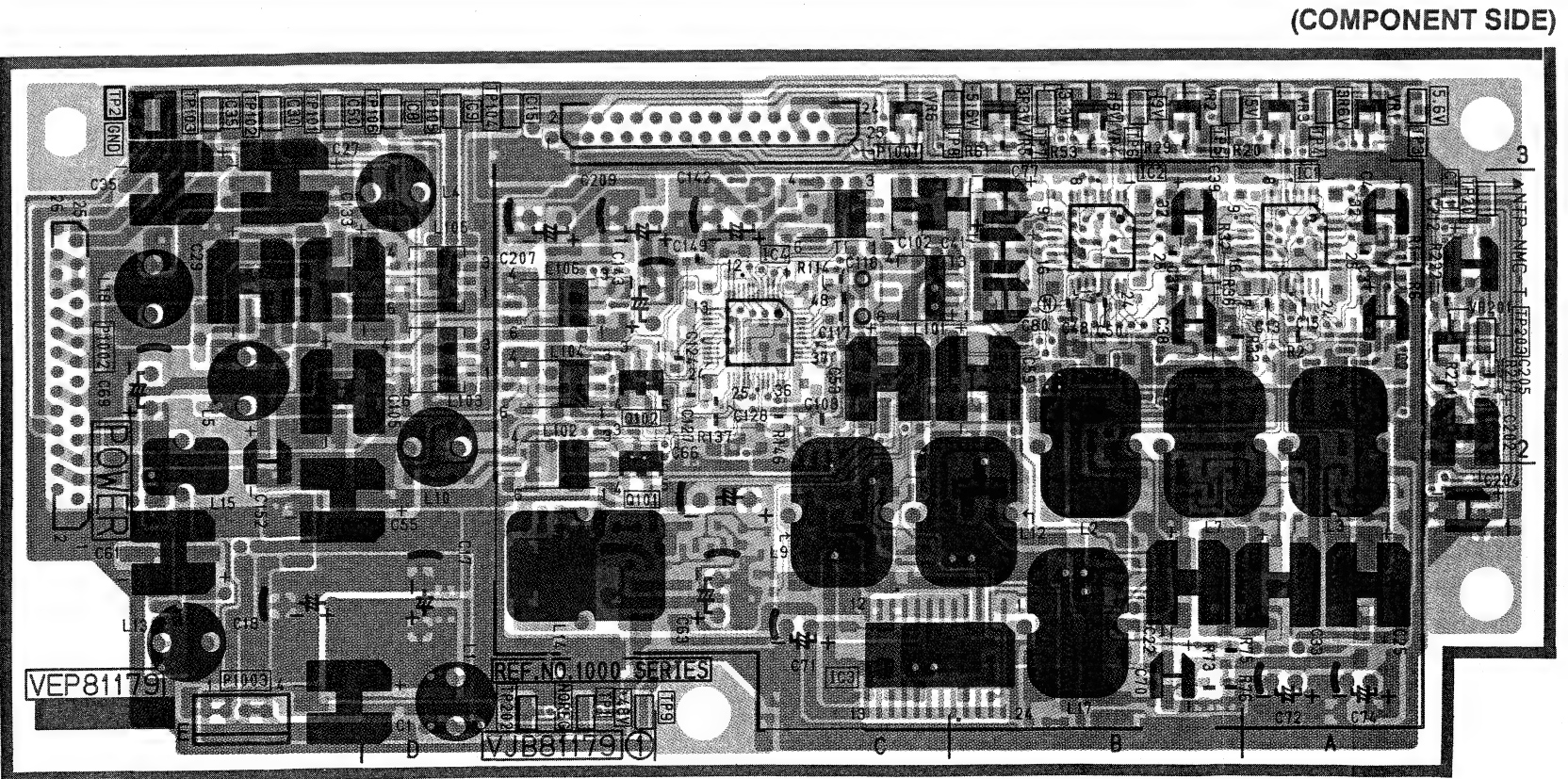
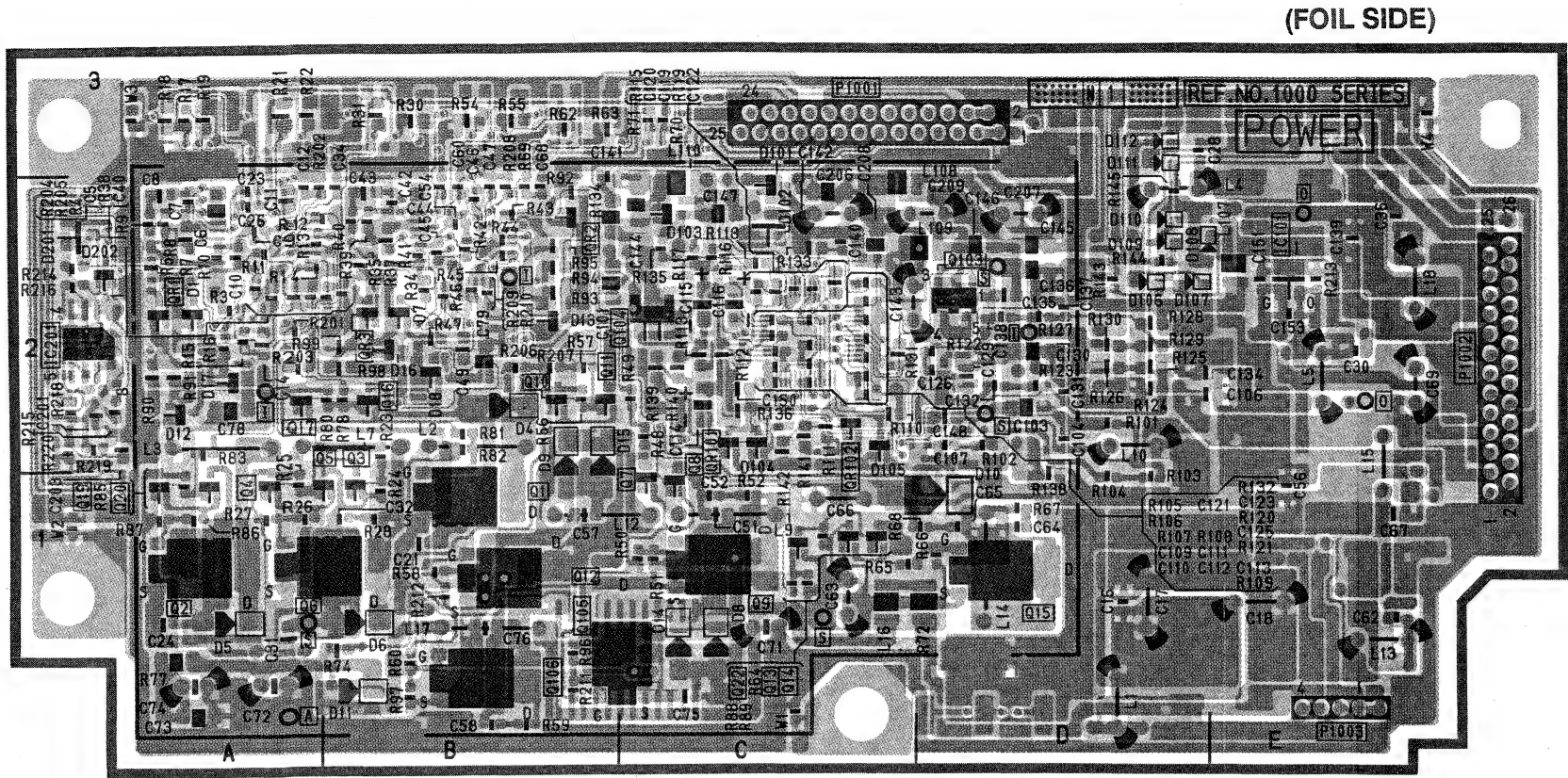


(COMPONENT SIDE)

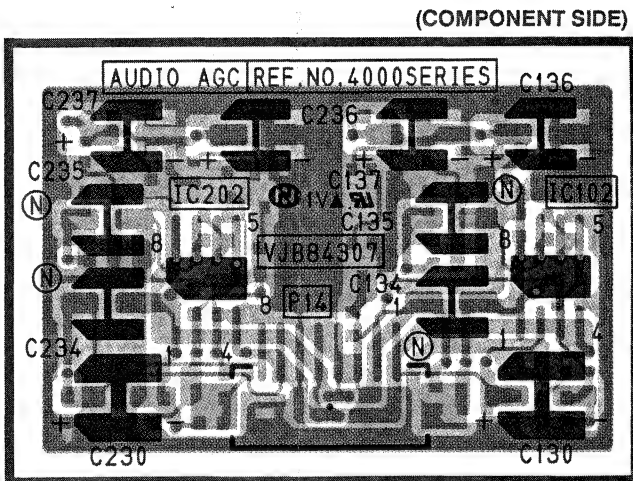
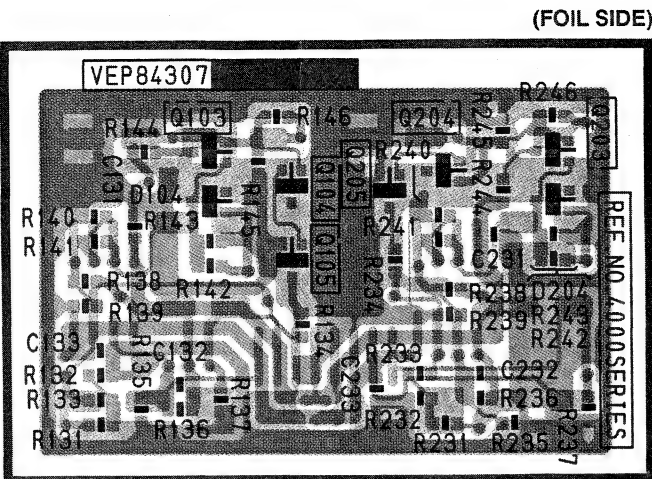




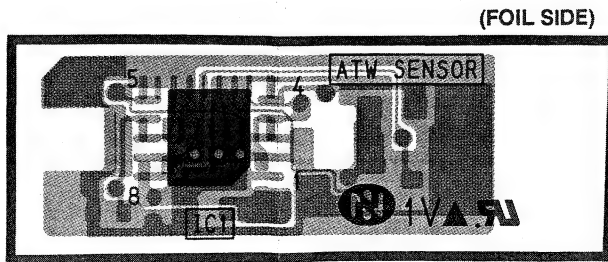
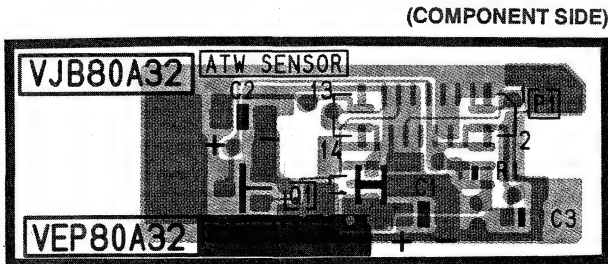
POWER P.C.BOARD

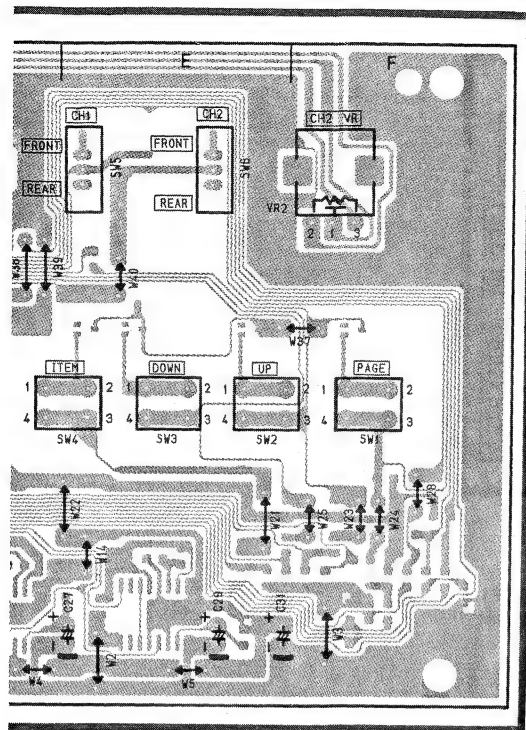


AUDIO AGC P.C.BOARD

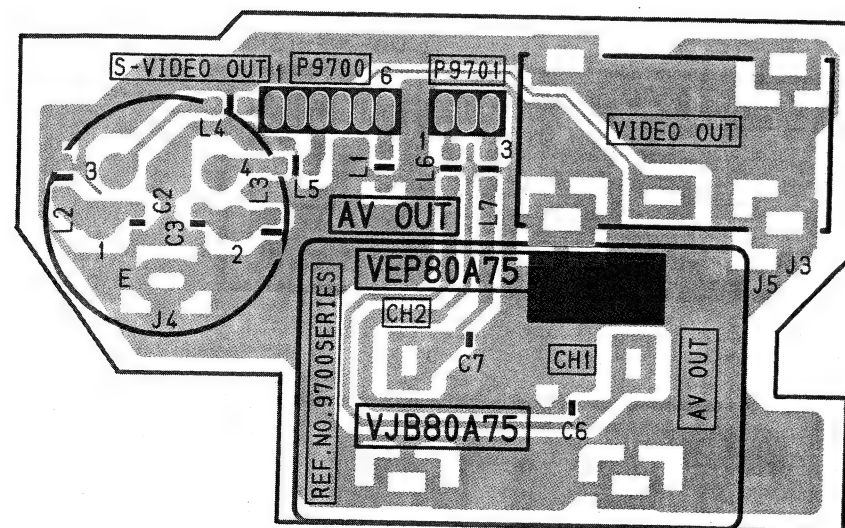


ATW SENSOR P.C.BOARD

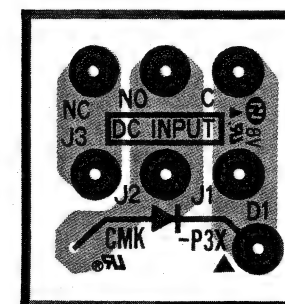




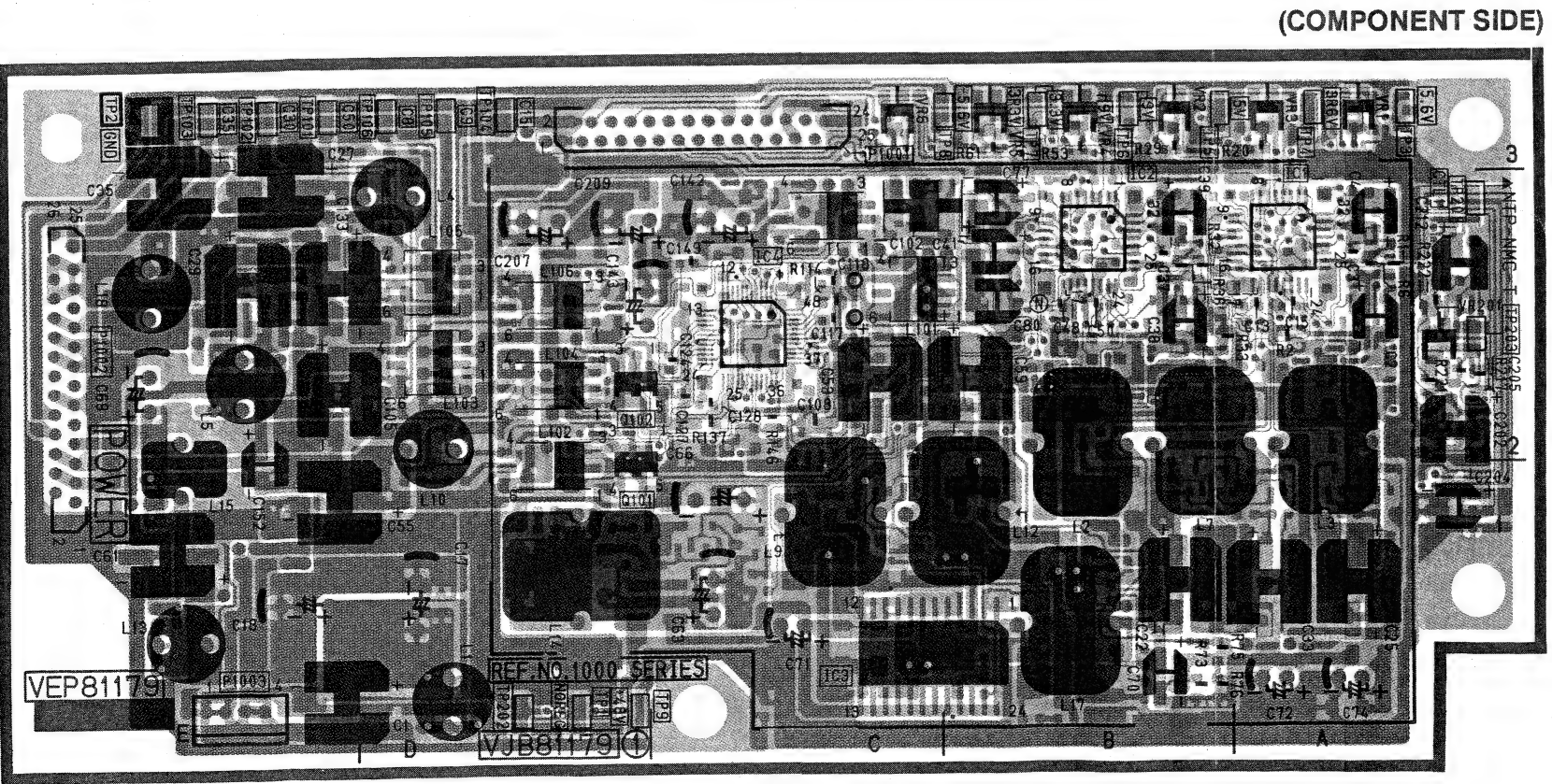
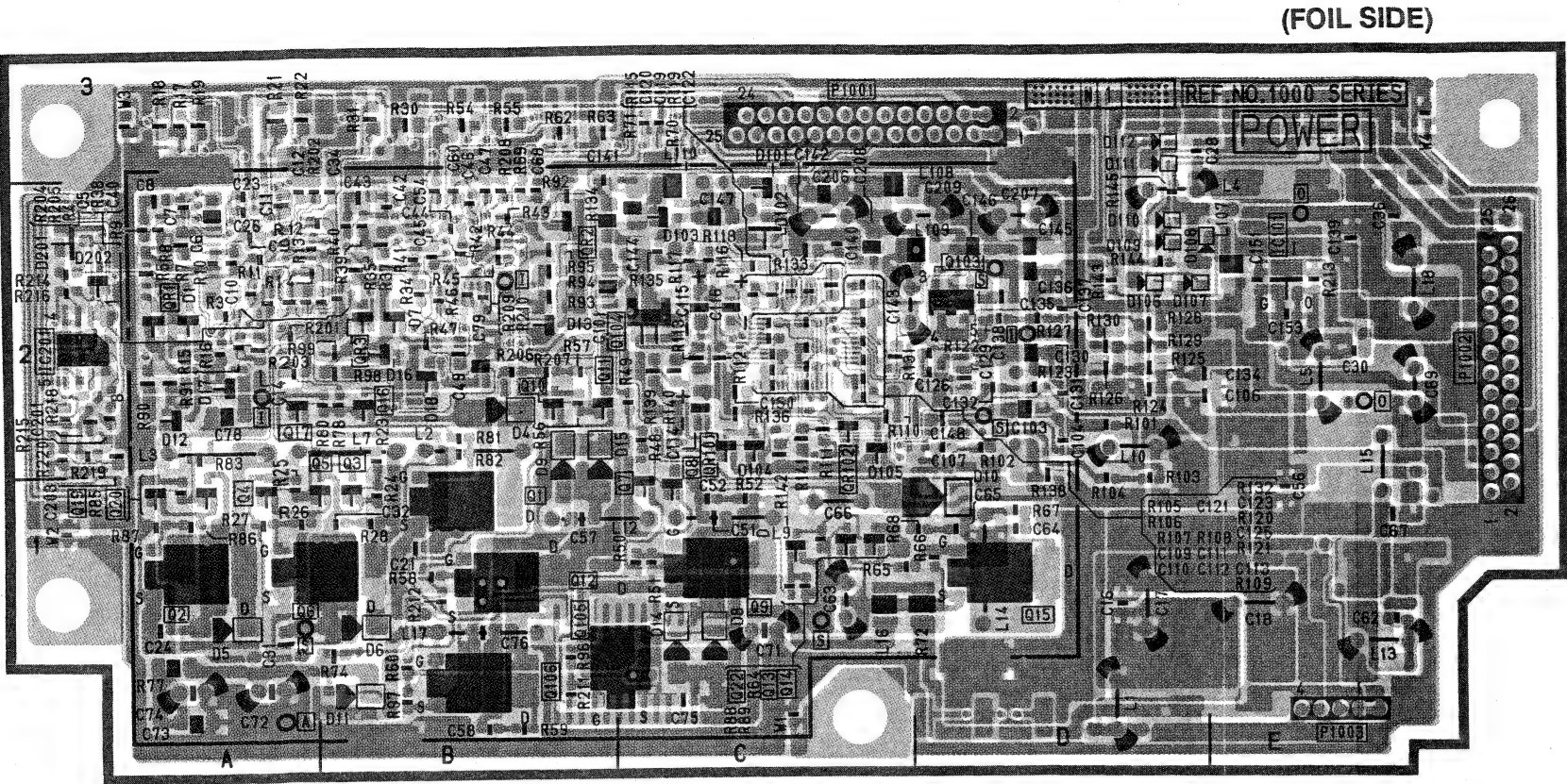
AV OUT P.C.BOARD



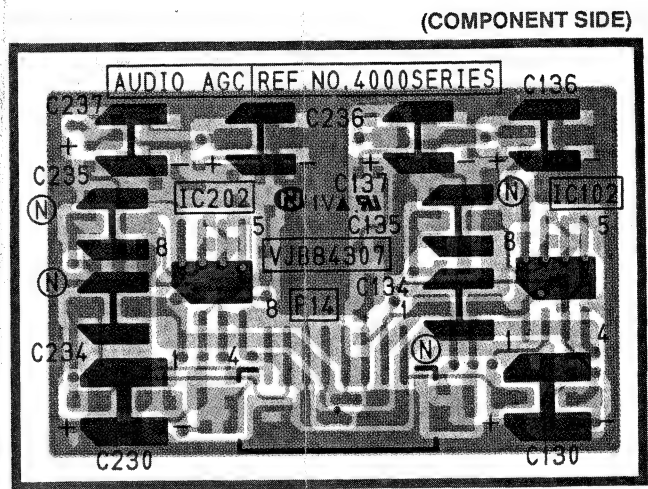
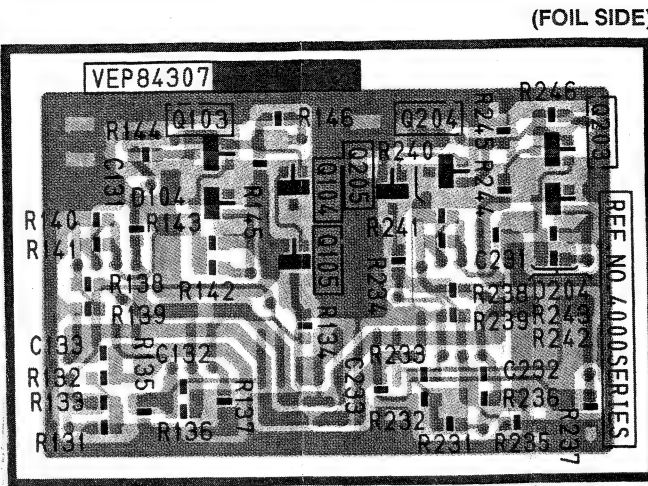
DC INPUT P.C.BOARD



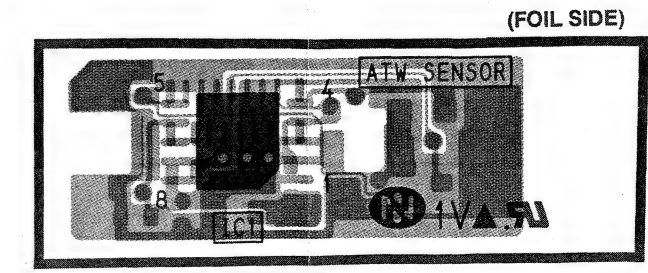
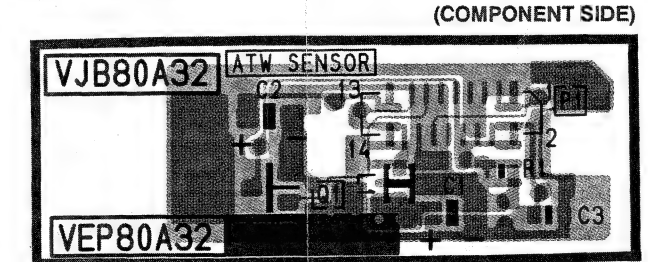
POWER P.C.BOARD

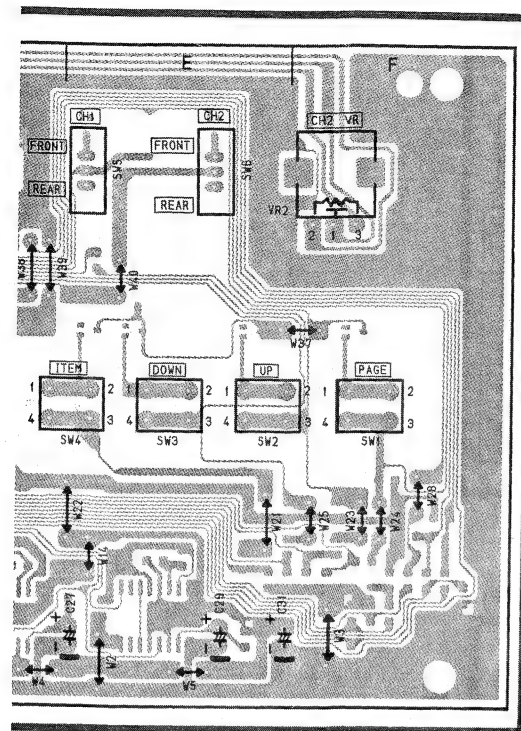


AUDIO AGC P.C.BOARD

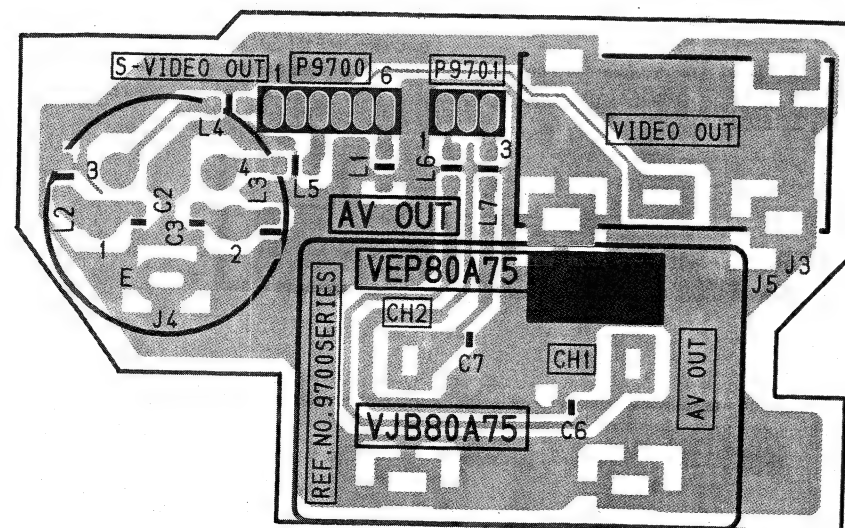


ATW SENSOR P.C.BOARD

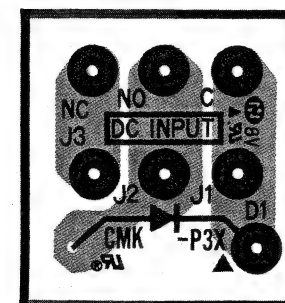




AV OUT P.C.BOARD

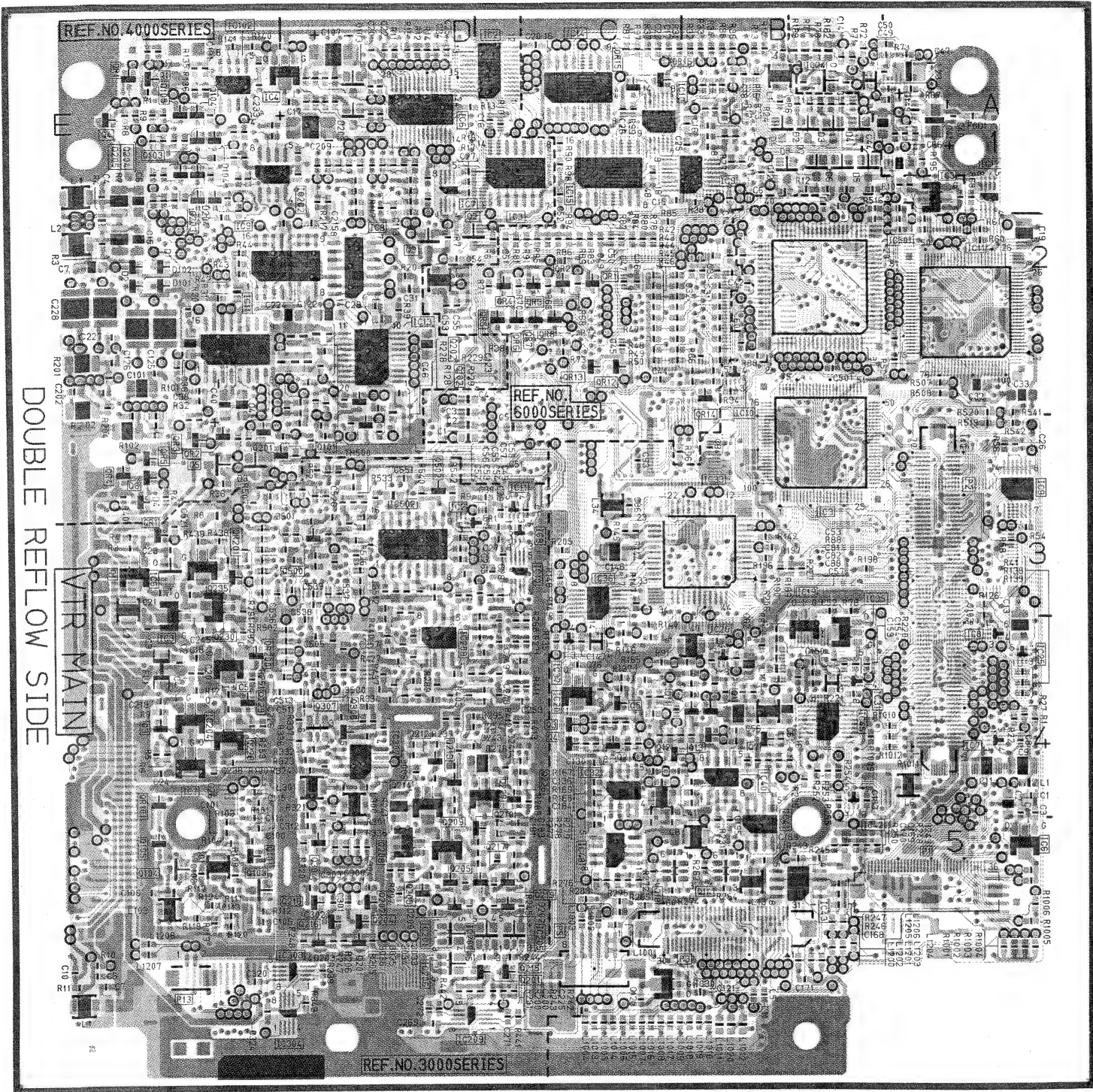


DC INPUT P.C.BOARD

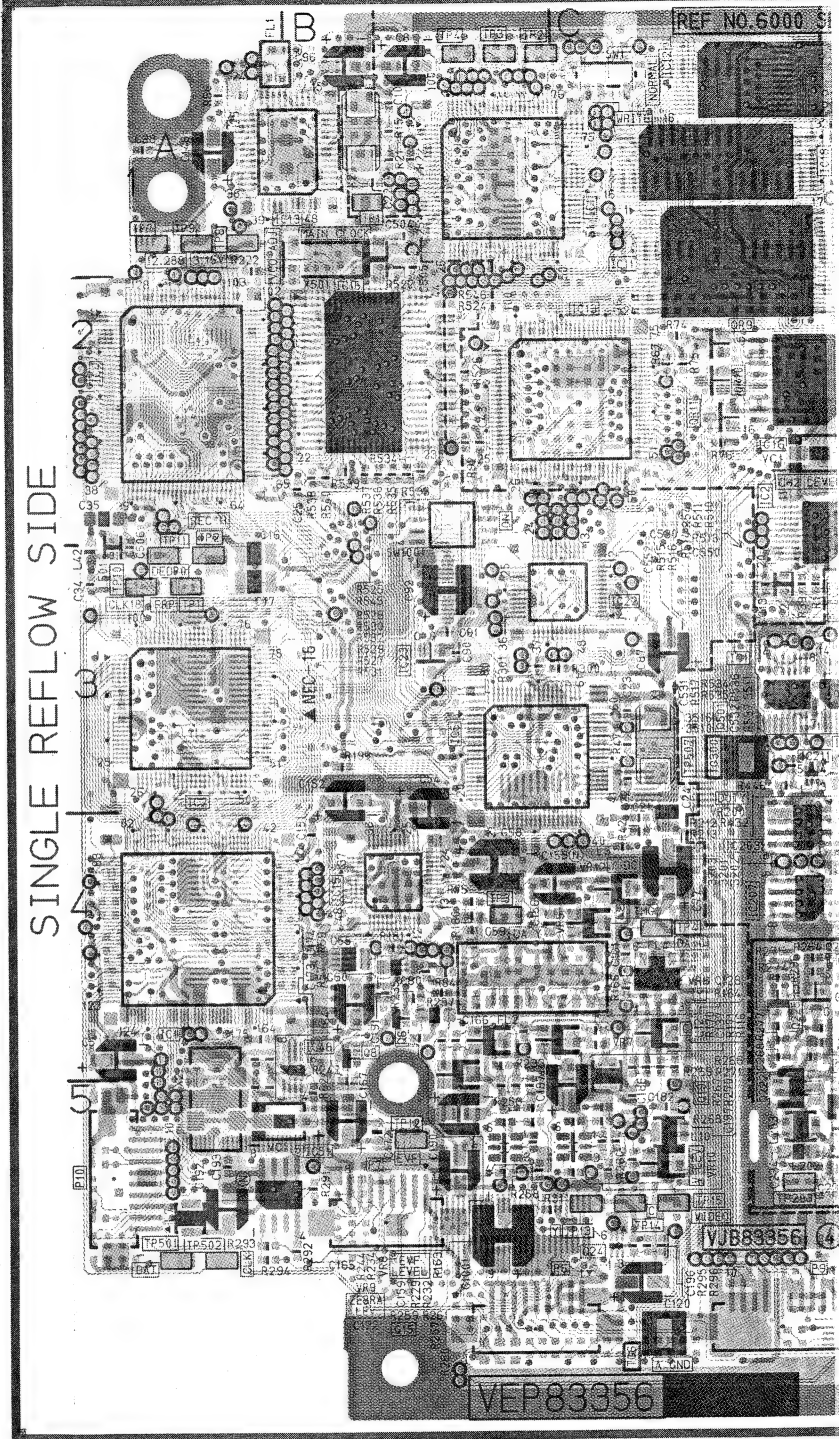


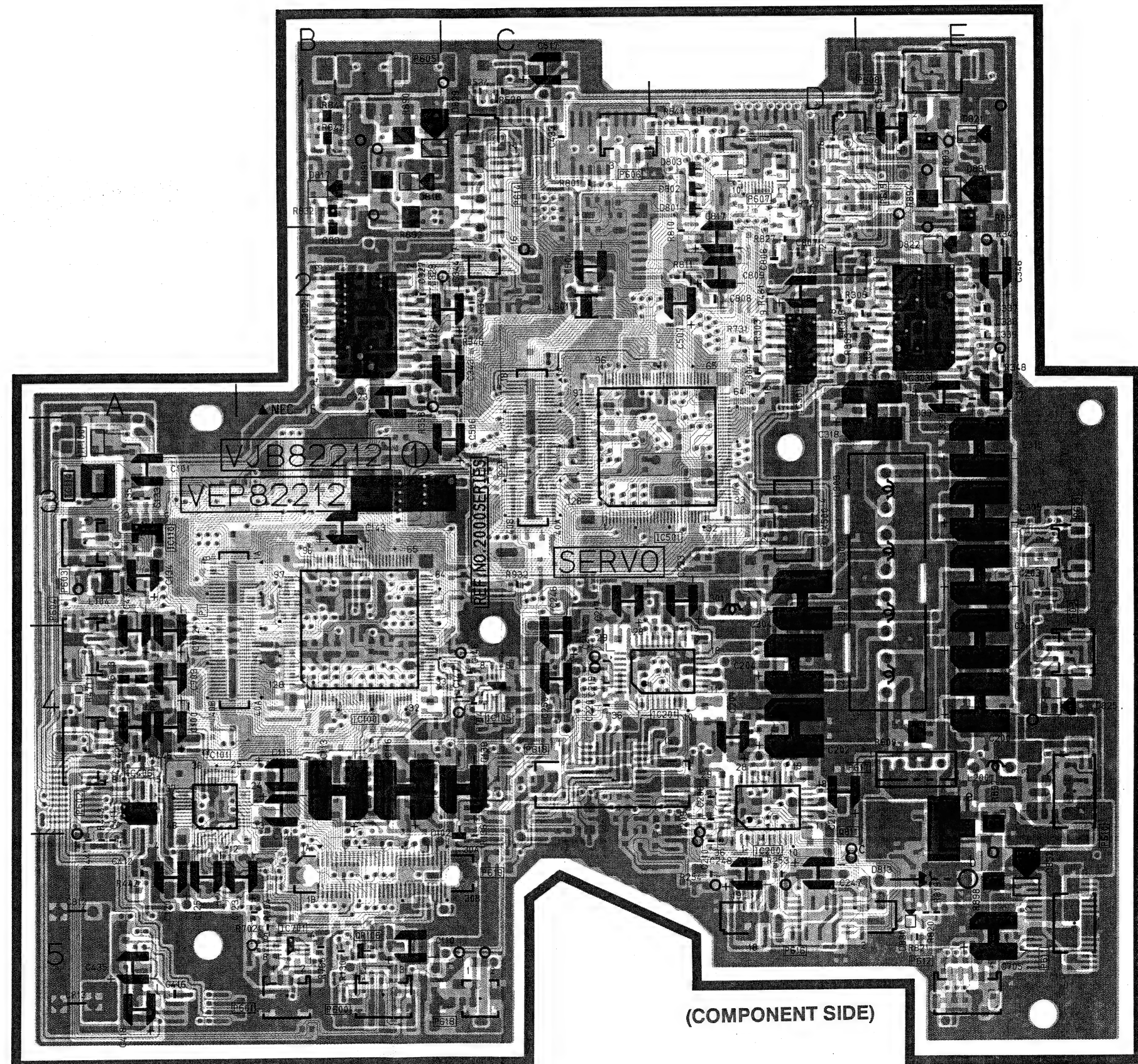
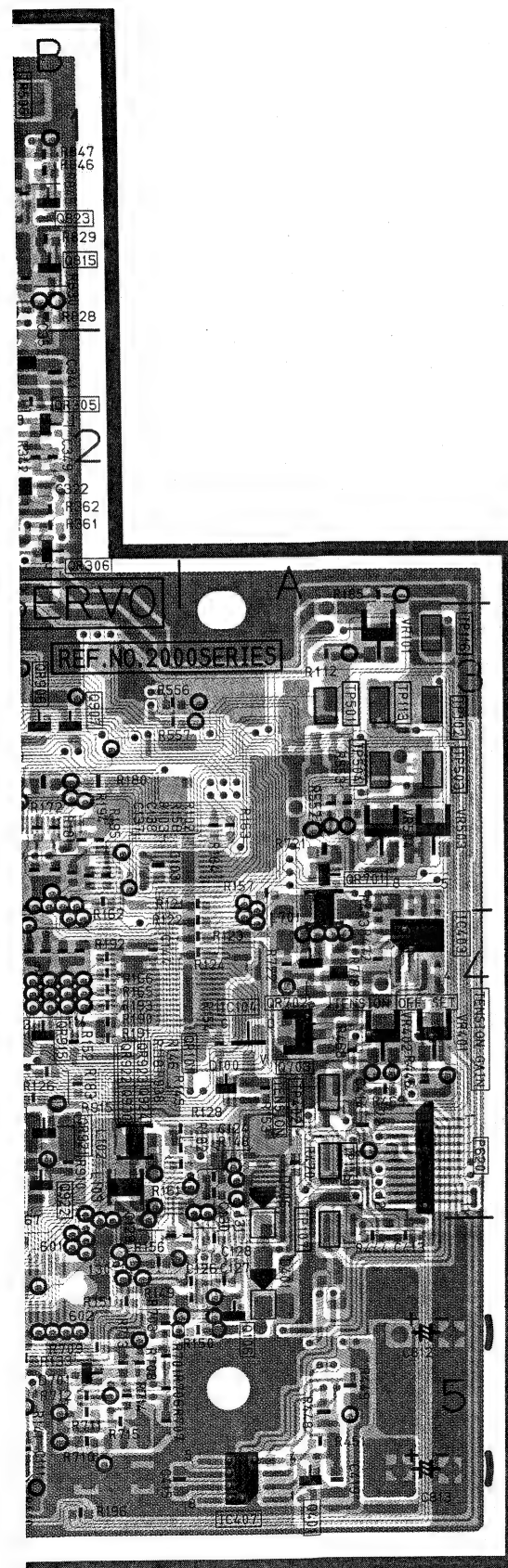
VIDEO MAIN P.C.BOARD

(FOIL SIDE)

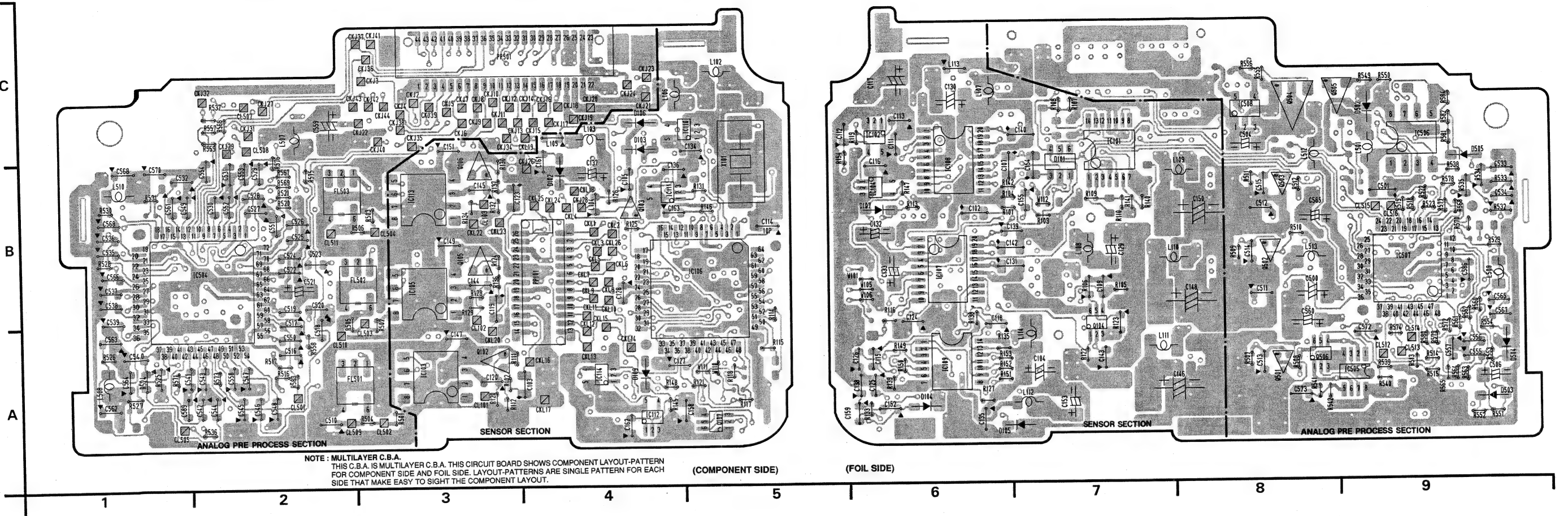


(COMPONENT SIDE)





SENSOR (SENSOR, ANALOG PRE PROCESS Section) C.B.A.



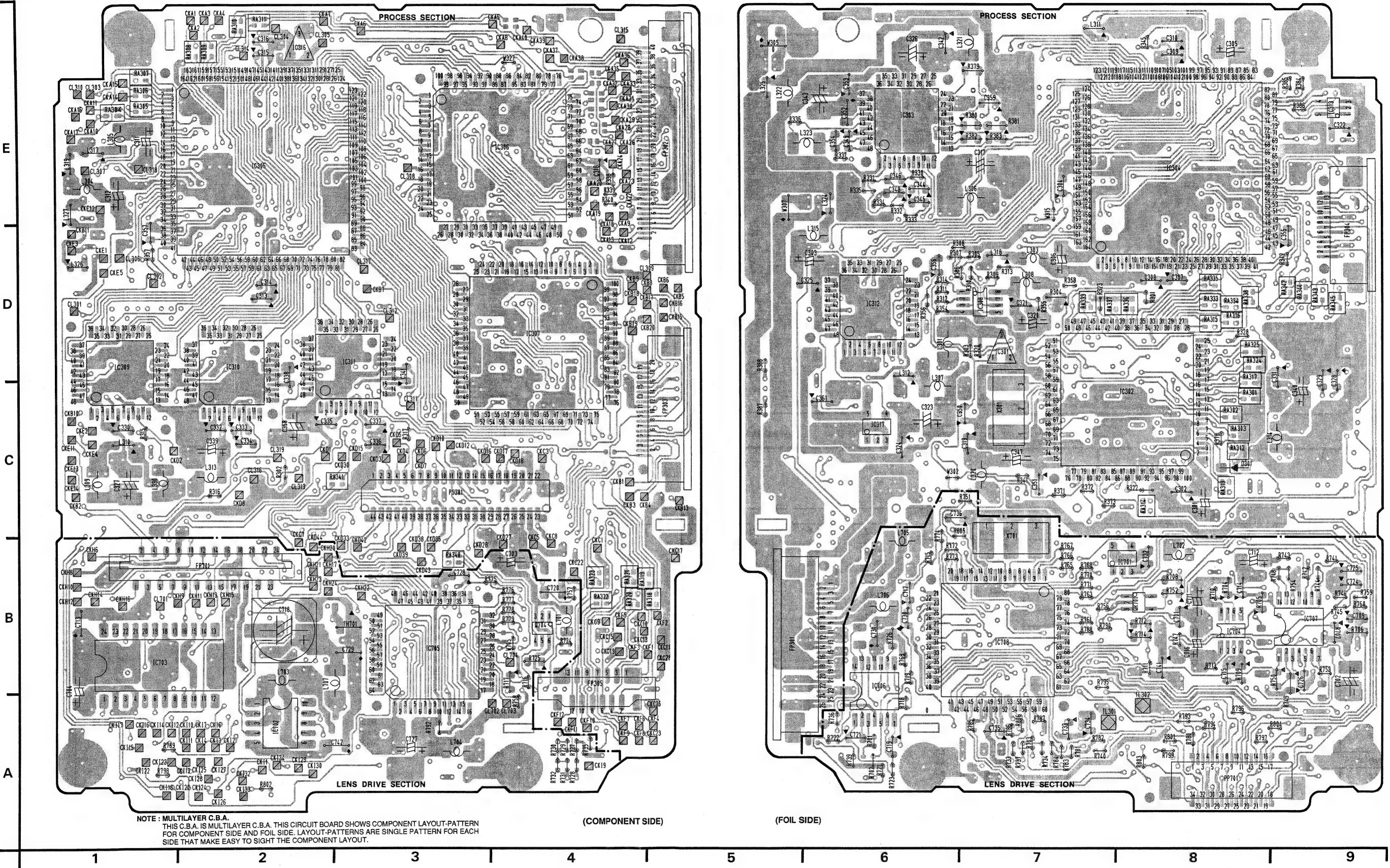
NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS MULTILAYER C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

(COMPONENT SIDE)

(FOIL SIDE)

SENSOR C.B.A.																									
Integrated Circuit		Diode		Connector		Capacitor		C142	B-6	C523	B-2	C559	C-2	R118	A-5	R502	A-3	R538	B-9	R580	A-9				
IC101	C-7	D101	B-7	PP101	B-4	C102	B-6	C143	A-7	C524	B-2	C560	A-8	R119	C-6	R503	B-3	R539	A-9	R581	C-9				
IC102	C-6	D102	B-4	PP501	C-3	C103	A-4	C144	B-3	C525	B-2	C561	B-1	R120	A-3	R504	A-3	R540	A-9	R582	C-9				
IC103	A-3	D103	C-4	Crystal Oscillator		C104	A-7	C145	B-3	C526	B-2	C562	A-1	R121	A-5	R505	A-2	R541	A-8	R583	A-2				
IC104	B-6	D104	A-6			C105	B-4	C146	A-8	C527	B-2	C563	A-1	R122	A-7	R506	B-3	R542	A-8	Wire					
IC105	B-3	D105	A-6			C107	B-6	C147	A-3	C528	B-2	C564	A-1	R123	A-7	R507	A-8	R549	C-9						
IC106	B-4	D106	C-4	C109	B-7	C148	B-8	C529	B-2	C565	B-9	R124	B-3	R508	A-8	R550	C-9	W101	B-6						
IC107	B-6	D107	B-6	Filter		C111	C-6	C149	B-3	C530	B-2	C566	B-1	R125	B-4	R509	B-8			R551	A-9	W105		B-6	
IC108	B-6	D109	A-4			C112	B-5	C150	B-8	C531	B-2	C567	A-9	R126	B-4	R510	B-8			R552	A-9				
IC109	A-6	D502	C-9			C113	C-6	C151	C-3	C532	B-1	C568	B-1	R127	A-6	R511	B-8	R553	A-9	W110	A-5				
IC110	C-4	D503	A-9	C114	B-5	C152	A-6	C533	B-9	C569	B-1	R128	B-3	R512	B-8	R554	A-9	W111	A-5						
IC111	B-4	D504	A-9	C115	A-6	C153	A-7	C534	B-9	C570	B-1	R129	B-3	R513	A-9	R555	C-8							W112	B-7
IC112	A-4	D505	C-9	C116	B-6	C154	B-7	C535	B-1	C572	A-9	R130	B-3	R514	A-9	R556	C-8								
IC113	B-3	Test Point		C117	C-6	C155	B-7	C536	B-1	C573	A-8	R131	B-5	R515	A-9	R557	C-2								
IC114	A-4			C118	A-6	C156	A-4	C537	B-1	R132	B-3	R516	A-2	R558	A-2										
IC504	B-2			C119	B-3	C157	B-4	C538	B-1	R133	A-6	R517	A-2	R559	C-2										
IC505	A-9			C120	A-3	C158	A-4	C539	B-1	R134	B-3	R518	B-9	R560	A-9										
IC506	C-9			C121	B-3	C159	B-4	C540	A-1	Resistor															
IC507	B-9	C122	A-6	C160	B-8	C541	A-2	R101	B-6											R135	A-6		R561		
IC508	C-8	C123	B-3	C161	B-4	C542	A-2	R102	A-3									R136	B-3	R562	A-9				
Transistor		CL101	A-3	L101	C-4	C124	A-6	C500	B-8	C543	A-2	R103	B-7	R137	B-3	R521	B-2	R563	A-9						
		CL102	B-3	L102	B-4	C125	A-6	C501	B-9	C544	A-2	R104	B-6	R138	A-6	R522	B-9	R564	A-9						
		CL103	B-3	L103	C-4	C126	A-6	C504	C-8	C545	A-2	R105	B-7	R139	A-6	R523	B-9	R565	A-9						
		CL501	A-2	L104	C-4	C127	A-4	C506	A-9	C546	A-2	R106	B-7	R140	B-7	R524	A-1	R566	C-2						
		CL502	A-3	L105	C-4	C128	B-4	C510	A-2	C547	A-2	R107	C-7	R141	B-7	R525	A-1	R567	B-2						
		CL503	A-3	L106	C-4	C129	B-7	C511	B-8	C548	A-2	R108	C-7	R142	B-6	R526	A-1	R568	B-9						
		CL504	B-3	L107	C-6	C130	C-6	C512	B-8	C549	B-1	R109	B-7	R143	A-4	R527	A-1	R569	B-2						
		CL505	A-1	L108	B-7	C131	B-6	C513	A-8	C550	A-2	R110	B-7	R144	B-6	R528	B-1	R570	B-9						
		CL507	C-2	L109	B-8	C132	B-6	C514	B-8	C551	B-2	R111	A-3	R145	A-4	R529	B-9	R571	A-1						
		CL508	C-2	L110	B-7	C133	B-6	C515	B-8	C552	B-2	R112	A-3	R146	B-5	R530	B-1	R572	A-9						
		CL509	A-2	L111	A-7	C134	C-5	C516	A-2	C553	B-2	R113	B-6	R147	A-6	R531	B-1	R573	A-2						
		CL510	A-2	L112	A-7	C135	A-6	C517	B-2	C554	B-2	R114	B-5	R148	A-4	R532	B-9	R574	A-9						
		CL511	B-2	L113	C-6	C136	B-4	C518	A-2	C555	A-9	R115	A-5	R149	A-6	R533	B-9	R575	B-2						
		CL512	A-9	L114	A-7	C137	B-4	C519	B-2	C556	A-9	R116	B-6	R150	A-6	R534	B-9	R576	B-2						
		CL513	A-9	L501	C-9	C138	A-6	C520	B-2	C557	A-9	R117	A-5	R151	A-6	R535	B-9	R577	B-9						
		CL514	A-9	L502	C-2	C139	B-6	C521	B-2	C558	A-2			R152	A-3	R536	A-2	R578	B-9						
CL515	B-9	L503	B-8	C140	C-7	C522	B-2					R153		R537	C-2	R579	A-9								
CL516	B-9	L513	B-8									R154													

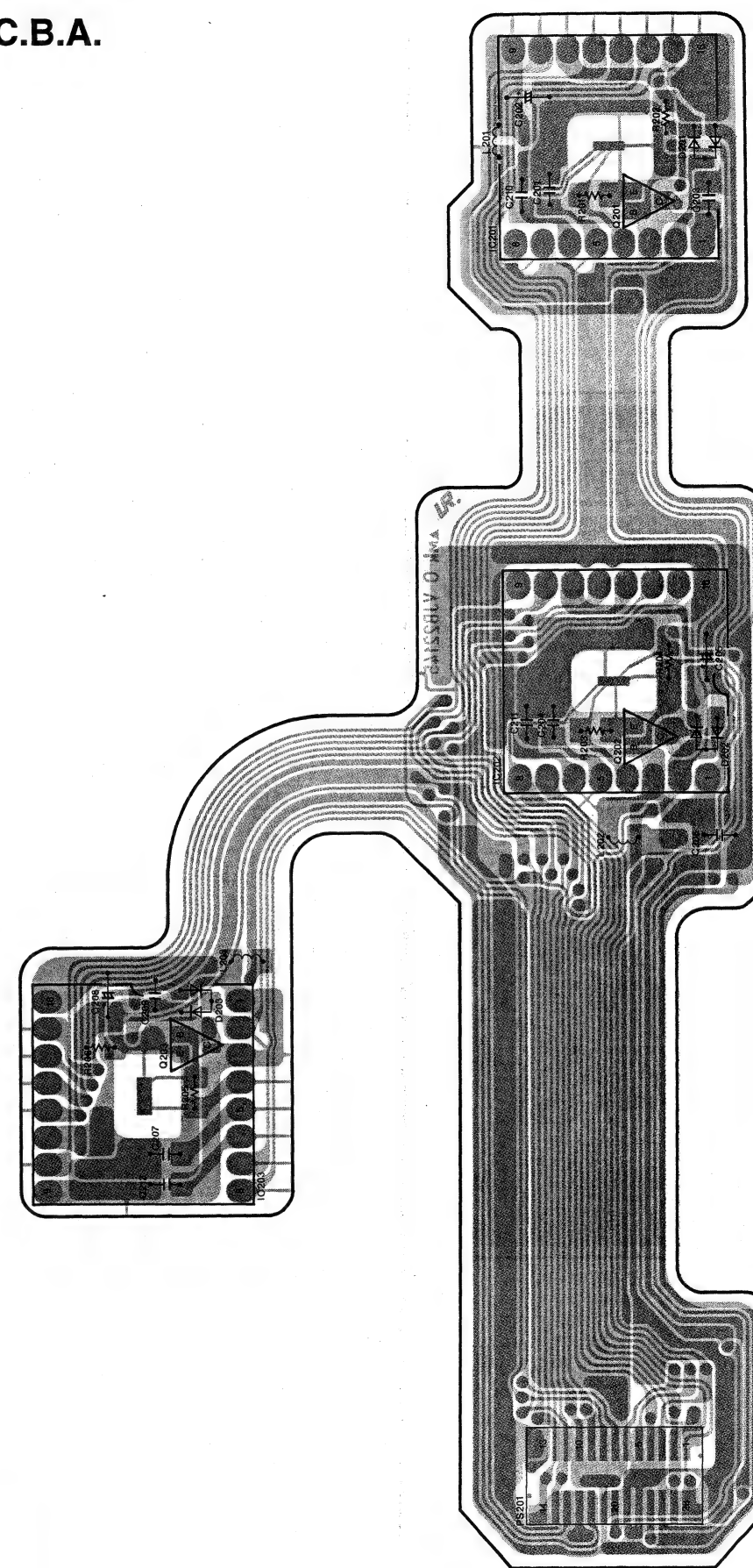
PROCESS (PROCESS, LENS DRIVE Section) C.B.A.



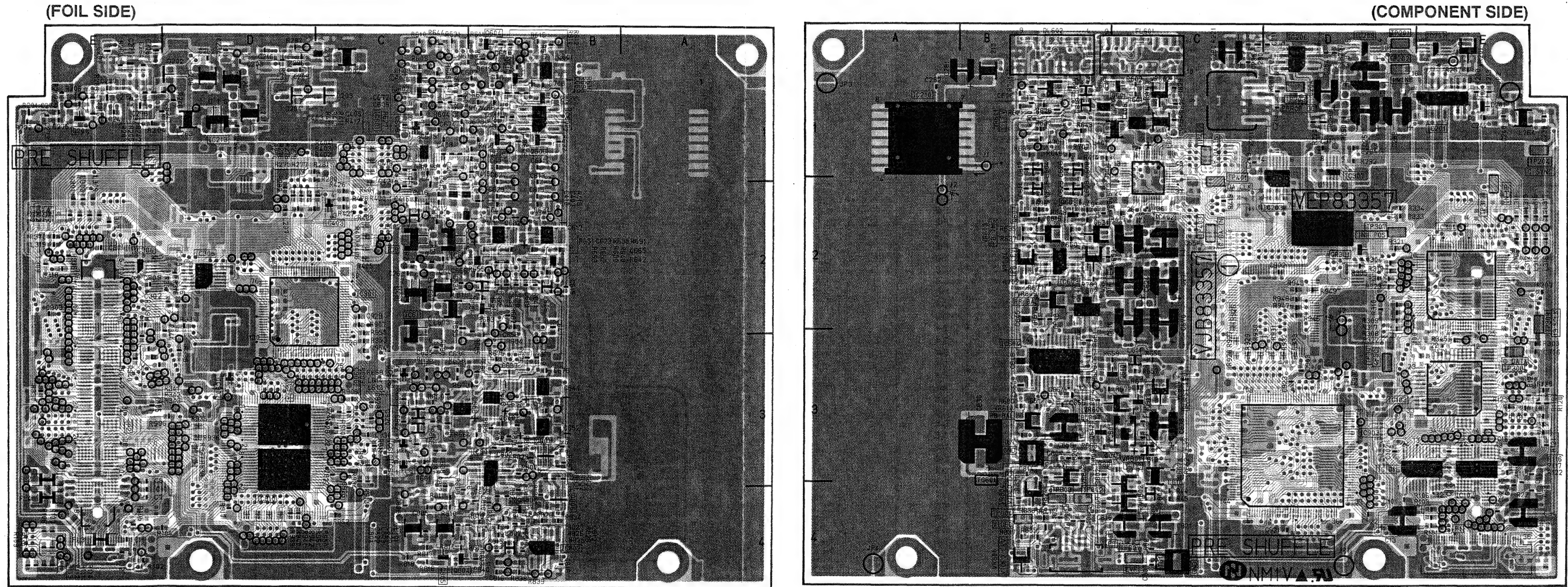
PROCESS C.B.A.									
Integrated Circuit		L306	E-7	C354	E-6	R379	E-7	R780	A-8
IC301	D-7	L307	D-6	C355	D-9	R380	E-7	R781	A-7
IC302	C-7	L308	D-7	C356	D-6	R381	E-7	R782	A-7
IC303	E-6	L309	C-1	C357	D-1	R382	E-7	R783	A-7
IC304	E-8	L310	C-1	C358	C-2	R383	E-7	R784	A-7
IC305	E-2	L311	F-7	C359	E-7	R384	E-9	R785	A-7
IC306	E-4	L312	D-6	C361	C-6	R385	E-9	R786	A-7
IC307	D-4	L313	C-2	C701	B-8	R386	E-9	R787	A-7
IC308	D-7	L314	C-9	C702	B-9	R387	C-5	R788	B-7
IC309	D-1	L315	D-6	C703	B-4	R388	D-5	R789	A-1
IC310	D-2	L317	E-1	C704	B-1	R701	A-6	R790	B-7
IC311	D-3	L318	D-7	C709	B-9	R702	A-6	R792	A-3
IC312	D-6	L319	E-1	C711	B-8	R703	A-7	R793	A-8
IC313	E-9	L320	C-7	C712	B-8	R704	B-8	R794	A-8
IC316	F-2	L321	F-7	C713	B-1	R705	B-8	R795	B-7
IC317	C-6	L322	F-5	C714	B-8	R706	B-9	R796	A-8
IC701	B-8	L323	E-6	C715	B-8	R707	B-9	R797	A-8
IC702	A-2	L324	E-6	C716	B-8	R708	B-8	R798	A-1
IC703	B-1	L325	E-5	C717	B-6	R709	B-8	R799	A-8
IC704	B-8	L326	D-1	C718	B-2	R710	B-8	R801	A-8
IC705	B-3	L327	E-1	C719	A-6	R711	B-8	R802	A-2
IC706	B-6	L330	C-1	C720	B-4	R712	B-8	R803	A-8
IC707	B-9	L701	B-4	C721	A-6	R713	B-8	R804	A-9
IC708	B-7	L702	B-8	C724	B-9	R714	B-8	R805	C-7
Transistor		L703	B-2	C725	B-9	R715	B-6	R806	A-7
		L704	A-3	C726	B-9	R716	B-4	Resistor Array	
Q704	B-4	L705	C-6	C727	A-3	R717	B-4		
Transistor & Resistor		L706	B-6	C728	B-3	R718	A-6	RA301	C-8
QR701	B-8	L707	B-2	C729	B-3	R719	B-6	RA302	C-8
Diode		Capacitor		C730	B-6	R721	A-6	RA303	C-8
				C731	B-6	R722	A-6	RA304	E-1
D301	C-8	C301	C-8	C732	B-8	R723	A-6	RA305	E-1
Test Point		C302	C-8	C733	A-7	R724	B-4	RA306	E-1
		C303	D-6	C734	A-7	R725	B-4	RA307	E-1
CL301	D-1	C304	E-7	C735	A-7	R726	B-6	RA308	F-2
CL302	D-1	C305	F-8	C736	C-7	R727	A-4	RA309	F-2
CL303	E-1	C306	D-7	C741	B-8	R728	A-4	RA310	F-2
CL304	F-2	C307	D-8	C742	A-2	R729	A-4	RA311	F-2
CL305	F-2	C308	D-8	Resistor		R730	A-4	RA312	C-8
CL306	D-1	C309	F-8			R731	A-4	RA313	C-8
CL307	E-1	C310	F-8	R301	D-8	R732	A-4	RA314	C-8
CL308	E-3	C311	E-1	R302	C-2	R733	A-7	RA315	D-8
CL309	D-4	C312	E-1	R303	D-7	R734	A-7	RA316	D-8
CL310	E-1	C313	D-2	R304	D-7	R735	A-4	RA317	D-8
CL311	C-3	C314	D-2	R305	D-7	R736	A-6	RA318	B-4
CL312	D-3	C315	F-2	R306	D-7	R737	A-7	RA319	B-4
CL313	C-2	C316	F-2	R307	D-7	R739	A-6	RA320	B-4
CL314	F-2	C317	E-7	R308	D-7	R740	A-7	RA321	B-4
CL315	F-4	C318	E-4	R309	D-7	R741	B-9	RA322	B-4
CL316	C-2	C319	C-7	R310	D-7	R742	B-9	RA323	B-4
CL317	D-3	C320	D-7	R311	D-6	R743	B-9	RA324	D-8
CL318	E-1	C321	D-7	R312	D-6	R744	B-9	RA325	D-8
CL319	C-2	C322	E-9	R313	D-7	R745	B-9	RA326	D-8
CL701	B-1	C323	C-6	R314	D-6	R746	B-9	RA327	D-8
CL702	A-4	C324	C-6	R315	C-1	R747	B-8	RA328	D-8
CL703	A-4	C325	D-6	R316	C-2	R748	B-9	RA329	D-8
CL704	B-4	C326	F-6	R317	C-3	R749	B-9	RA330	D-8
TL301	A-7	C327	C-1	R320	D-7	R750	B-8	RA331	D-7
TL302	A-8	C328	D-9	R322	C-8	R751	C-7	RA332	B-3
Thermistor		C329	D-9	R323	D-7	R752	B-8	RA341	C-3
		C330	C-1	R328	D-8	R753	B-9	RA342	D-9
TH701	B-3	C331	C-9	R330	E-6	R754	B-9	RA343	D-9
Connector		C332	C-2	R331	E-6	R755	B-7	RA344	D-9
		C333	C-2	R332	E-6	R757	B-4	RA345	D-9
FP301	B-5	C334	C-2	R333	E-6	R758	A-4	Wire	
FP302	E-5	C335	C-2	R334	E-6	R759	B-9		
FP303	C-5	C336	C-3	R335	E-6	R760	B-9	W302	C-6
FP304	D-9	C337	C-3	R336	E-5	R761	B-7	W305	F-5
FP305	B-4	C338	D-2	R337	E-6	R763	B-7	W307	E-5
FP701	B-2	C339	C-2	R338	E-4	R765	B-7	W315	E-7
PP701	A-8	C340	C-9	R339	E-4	R766	B-7	W327	F-4
PS301	C-3	C341	D-3	R340	E-4	R767	B-7	W705	B-4
Crystal Oscillator		C342	F-6	R341	C-7	R768	B-7		
		C343	E-6	R342	D-9	R769	B-6		
X301	C-7	C344	E-6	R345	F-8	R770	B-7		
X701	C-7	C345	E-6	R354	D-6	R771	B-7		
Coil		C346	E-6	R355	D-7	R772	B-6		
		C347	C-7	R356	D-6	R773	B-6		
L301	D-6	C348	E-6	R357	D-1	R774	C-6		
L303	D-7	C349	E-6	R358	D-7	R775	B-3		
L304	E-1	C350	C-7	R371	C-7	R776	B-4		
L305	E-1	C351	C-7	R372	C-7	R777	B-4		
		C352	E-6	R373	C-7	R778	B-4		
		C353	E-6	R378	C-8	R779	B-4		

ADDRESS INFORMATION

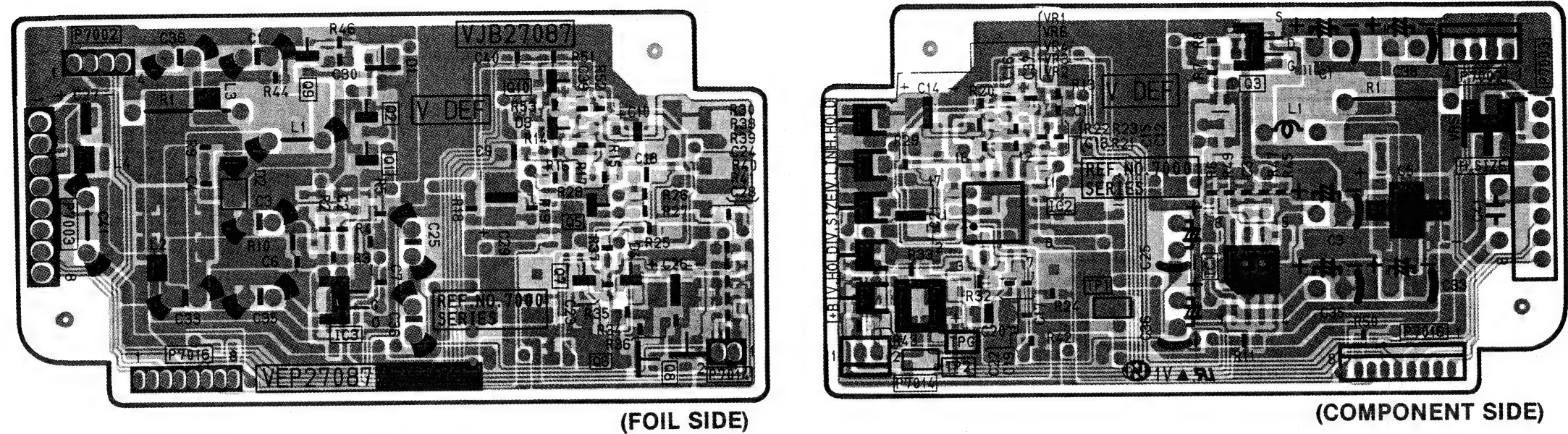
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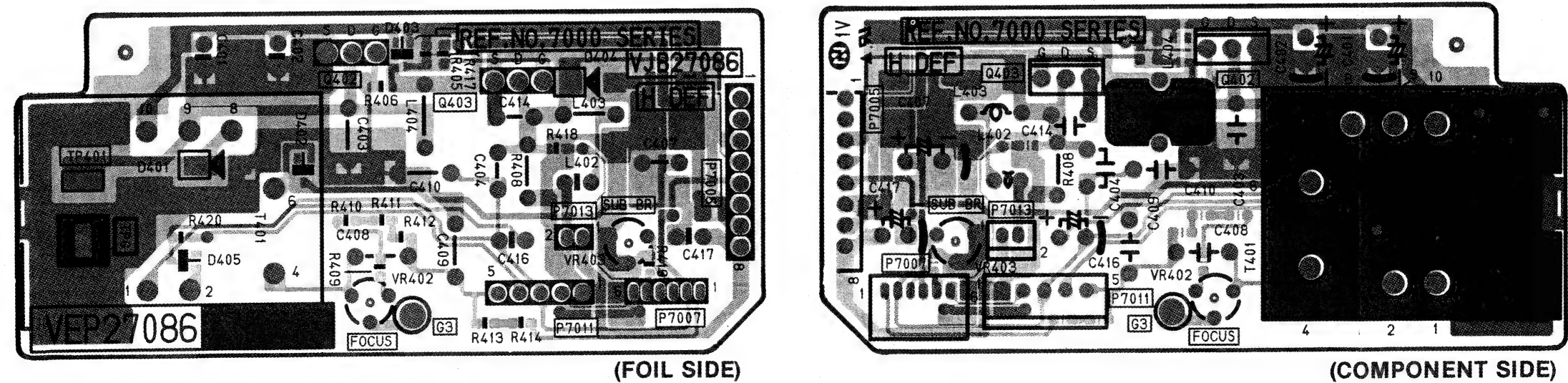
PRE SHUFFLE P.C.BOARD

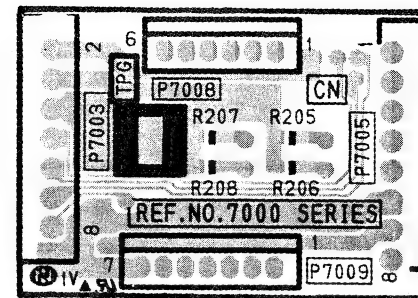


V DEF P.C.BOARD

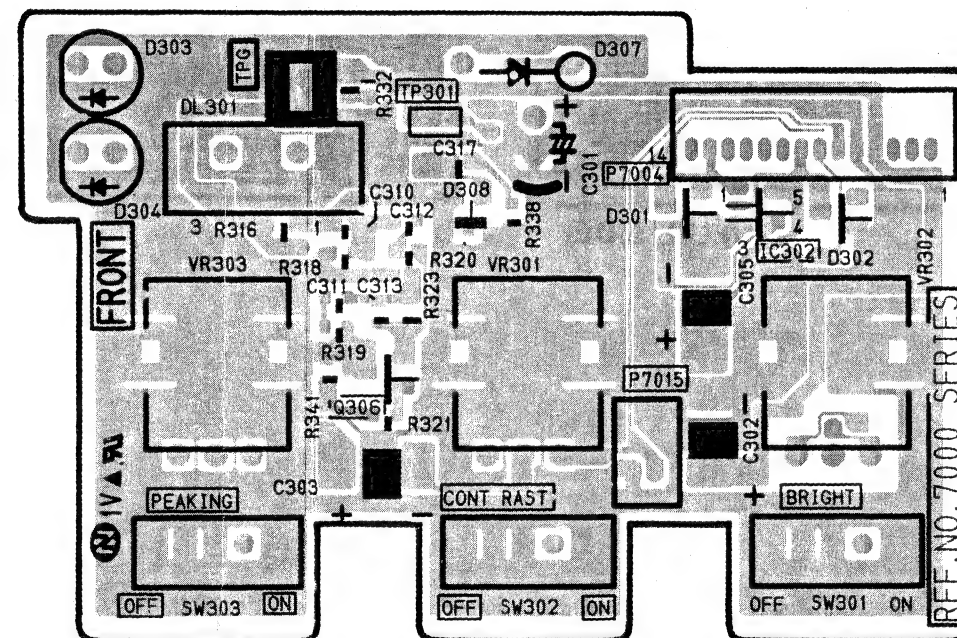


H DEF P.C.BOARD





(COMPONENT SIDE)



(COMPONENT SIDE)

VEP27090

1 2 3 4 5 6 7

D7505 D7506 D7501

AUDIO TALLY STBY

GAIN BATT VTR

D7502 D7504 D7503

VJB27090 CRT MASK

SECTION 8

EXPLODED VIEWS & PARTS LIST

NOTE:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are MICROFARADS (μ F), P= μ F.
3. The P.C.Board units marked with "■" shown below the main assembled parts.
4. The parts marked with (E) on the exploded view show the electric parts.
5. IMPORTANT SAFETY NOTICE
Components identified with the mark < I > have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available.

<< Abbreviations for part >>

< NAME >

< DESCRIPTIONS >

C. CAPACITOR		: CERAMIC CAPACITOR
C. CAPACITOR	CH	: CERAMIC CHIP CAPACITOR
E. CAPACITOR		: ELECTROLYTIC CAPACITOR
G. CAPACITOR		: GLASS CAPACITOR
M. CAPACITOR		: MICA CAPACITOR
P. CAPACITOR		: PLASTIC FILM CAPACITOR
S. CAPACITOR		: SEMI-CONDUCTOR CAPACITORE
T. CAPACITOR		: TANTALUM CAPACITOR
TRIMMER		: TRIMMER
C. RESISTOR		: CARBON RESISTOR
F. RESISTOR		: FUSE RESISTOR
M. RESISTOR		: METAL OXIDE RESISTOR
M. RESISTOR	CH	: METAL OXIDE CHIP RESISTOR
S. RESISTOR		: SOLID RESISTOR
V. RESISTOR		: VARIABLE RESISTOR
W. RESISTOR		: WIRE WOUND RESISTOR
COMBI. TR-R		: TRANSISTOR-RESISTOR COMBINATION PARTS
COMBI. R-R		: RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R		: CAPACITOR-RESISTOR COMBINATION PARTS
COMBI. C-R-R		: CAPACITOR-RESISTOR-COIL COMBINATION PARTS
P.C. BOARD		: PRINTED CIRCUIT BOARD
W / COMPONENT		: WITH COMPONENT

CONTENTS

MECHANICAL REPLACEMENT PARTS LIST	PRT-1
FRAME ASSEMBLY(1)	PRT-1
FRAME ASSEMBLY(2)	PRT-2
MECHANICAL CHASSIS ASSEMBLY(1)	PRT-3
MECHANICAL CHASSIS ASSEMBLY(2)	PRT-4
CASSETTE COMPARTMENT ASSEMBLY	PRT-5
EVF ASSEMBLY.....	PRT-6
PACKING PARTS ASSEMBLY.....	PRT-7
ELECTRICAL REPLACEMENT PARTS LIST	PRT-8

SERVICING FIXTURES & TOOLS

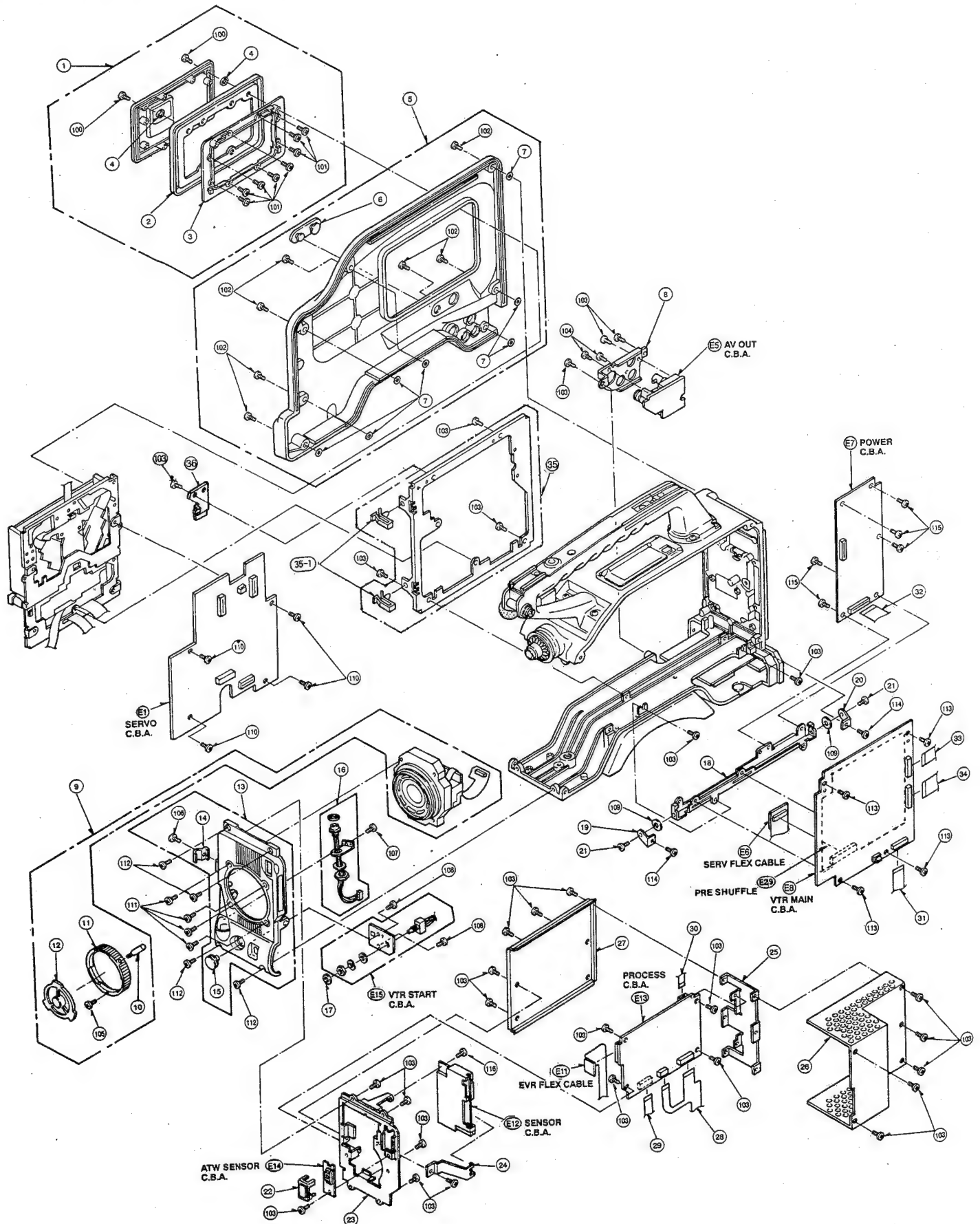
AJ-D200HE

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	VFK1145	BACK TENSION METER	1	
2	VFK1149	POST DRIVER	1	
3	VFK71	DIAL TORQUE GAUGE (150G)	1	
4	VFK1191	DIAL TORQUE GAUGE (45G)	1	
5	VFK1152	DIAL TORQUE GAUGE ADAPTOR	1	
6	VFK0357	ECCENTRIC SCREWDRIVER	1	
7	VFK1154	POST HEIGHT FIXTURE	1	
8	VFK1153	MECH. NEUTRAL PLATE (POST)	1	
8	VFK1157	MECH. NEUTRAL PLATE (CASE)	1	
9	VFK1155	NEUTRAL POSITION TOOL	1	
10	VFK1158	NEUTRAL POSITION TOOL	1	
11	VFK1208	NEUTRAL POSITION TOOL	1	
12	VFK1150	NUT DRIVER (5.5MM)	1	
13	VFK1151	NUT DRIVER (2.2MM)	1	
14	VFK1188	DIAL TENSION GAUGE (30G)	1	
15	VFK0948	CHECK LIGHT	1	
16	VFK0749	FROIRAL GREASE	1	
17	MOR265	MORLYTONE GREASE	1	
18	VFK1146	PHILLIPS DRIVER (00-75)	1	
19	VFK1147	PHILLIPS DRIVER (0-100)	1	
20	VFK1148	HEX. DRIVER (1.5)	1	
21	VFK1178	HEX. DRIVER (0.89)	1	
22	VFK1179	HEX. DRIVER (0.71)	1	
23	VFK1190	HEX. WRENCH	1	
24	VFK1209	TORQUE DRIVER 0.4-3KG	1	
25	VFK0912	POST AXIS DRIVER (1.5MM)	1	
26	VFK1300	A/D BOARD (DAQ-12 QUATECH	1	
28	VFK1159	LISTA SOFTWARE	1	
29	VFK1186	LISTA CABLE	1	

AJ-D200HE

PRT-1


FRAME ASSEMBLY (1)



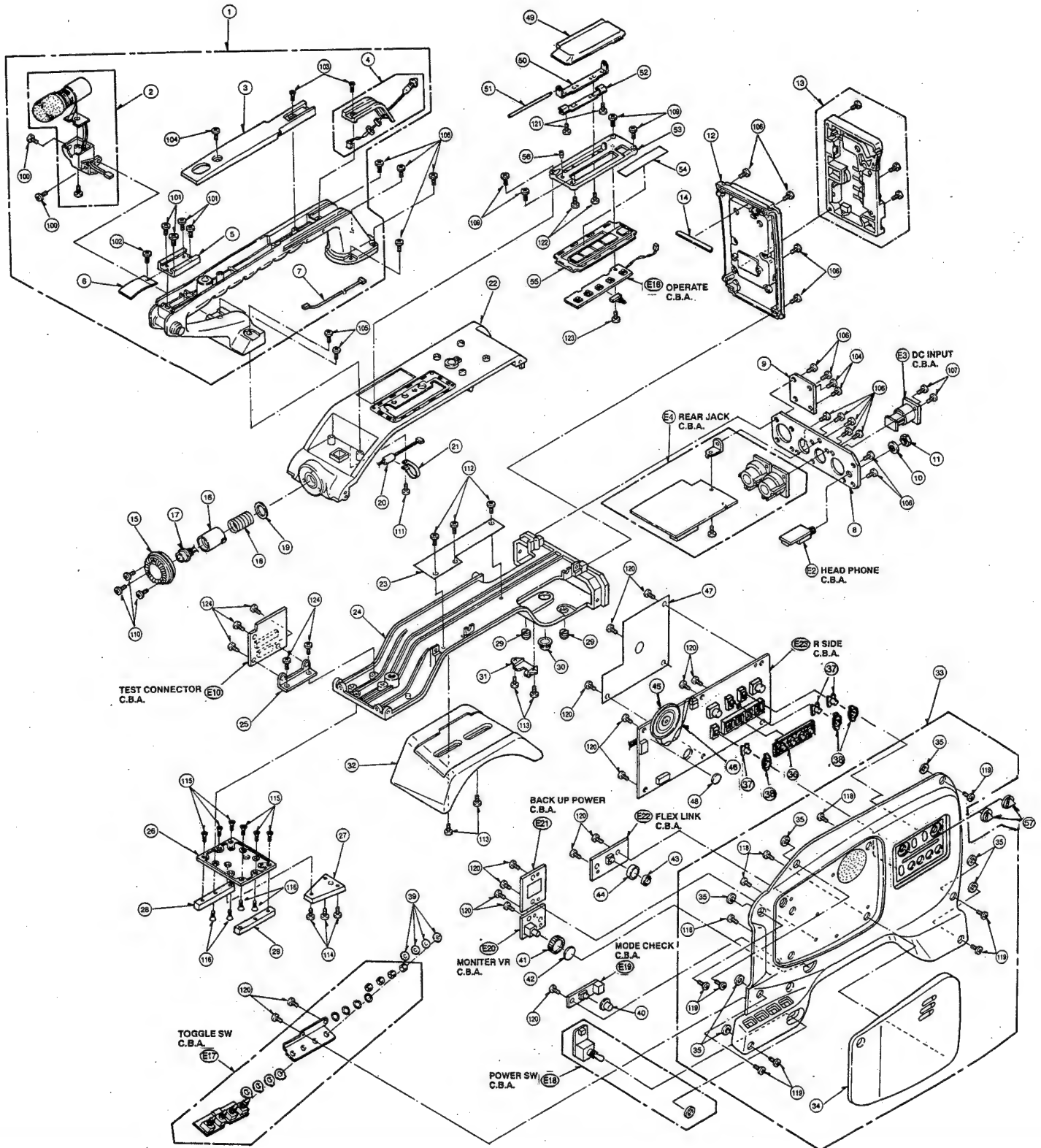
FRAME ASSEMBLY (2)

Components identified with the mark have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYH0259	HANDLE	1	
2	VEK6714	MIC U.	1	
3	VKF2721	HANDLE COVER	1	
4	VYF1888	TALLY COVER	1	
5	V5MA0046A4	CAMERA SHOE	1	
6	4G28145	SPRING	1	
7	VEE0A89	MIC CABLE	1	
8	VJH0986	JACK PLATE	1	
9	VGF0689	BLANK PLATE	1	
10	VMX0531	CLATCH SPACER	1	
11	VHN0194	NUT	1	
12	VGM1058	REAR CASE	1	
13	VJF1125	BATTERY HOLDER	1	
14	VGF0515	BATTERY CABLE HOLDER	1	
15	VGQ3454	EVF HOLD BASE	1	
16	VGQ3455	EVF CONNECTOR HOLDER	1	
17	VEE0A87	EVF CABLE	1	
18	VMB2224	TENSION SPRING	1	
19	VGF0514	SPACER	1	
20	VLP0188	FERRITE CORE	2	
21	VJF0980	CLAMPER	2	
22	VGM1057	TOP CASE	1	
23	VGQ4441	FLEXIBLE HOLDER	1	
24	VGM1390	BOTTOM CASE	1	
25	VMP5375	C. B. A. ANGLE	1	
26	VGM1277	FRONT FOOT BASE	1	
27	VGM1278	FRONT V EDGE	1	
28	VKA0299	FRONT FOOT	2	
29	VMG0954	REAR FOOT	2	
30	VMG0843	BRAKER CAP	1	
31	VMP4896	BACK LOCK ANGLE	1	
32	VMT0768	SHOLDER PAD	1	
33	VYP6654	SIDE CASE (R) 1U	1	
34	VMT0826	FACE PAD	1	
35	VMX1558	NYLON WASHER	7	
36	VGQ3415	OPERATION BUTTON HOLDER	1	
37	VGU8028	SLIDE KNOB (A)	3	
38	VMG0947	SLIDE KNOB RUBBER	3	
39	VMG0846	WATERPROOF SW INSULATION SH	4	
40	VGU4906	MODE CHECK BUTTTON	1	
41	VGU5694	VR KNOB	1	
42	VGH3360	VR KNOB CAP A	1	
43	VGU8511	PUSH BUTTON	1	
44	VGQ3417	PUSH BUTTON HOLDER A	1	
45	EAS2P104N	SPEAKER	1	
46	VEE0A98	SPEAKER CABLE	1	
47	VSC4859	OPERATION SHIELD PLATE	1	
48	VMT0539	CUSHION	1	
49	VKW1842	KEY BOARD DOOR	1	
50	VMP3738	DOOR ANGLE	1	
51	VMS4947	OPERATION SHAFT	1	
52	VMC0883	OPERATION PLATE SPRING	1	
53	VGK2058	KEY OPERATION PANEL	1	
54	VGH3019	KEY BOARD LABEL	1	
55	VGU8577	KEY BOARD BUTTON	1	
56	VMG0857	CUSHION RUBBER	1	
57	VGU8512	VR KNOB	2	
100	XSB3+8FZS	SCREW	2	
101	XSN2+6FZ	SCREW	4	
102	XSN26+4FC	SCREW	1	
103	XSS3+8FZS	SCREW	2	
104	XSB3+6FZ	SCREW	3	
105	XSB4+16FZS	SCREW	2	
106	XSB3+8FZ	SCREW	4	
107	XSN26+6FC	SCREW	2	
108	XSN26+6FZ	SCREW	5	
109	XSB2+6FZ	SCREW	4	
110	XYN26+K16FZ	SCREW	4	
111	XYN3+F10	SCREW	1	
112	XSB3+4	SCREW	3	
113	XYN3+F8	SCREW	2	

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

FRAME ASSEMBLY (2)

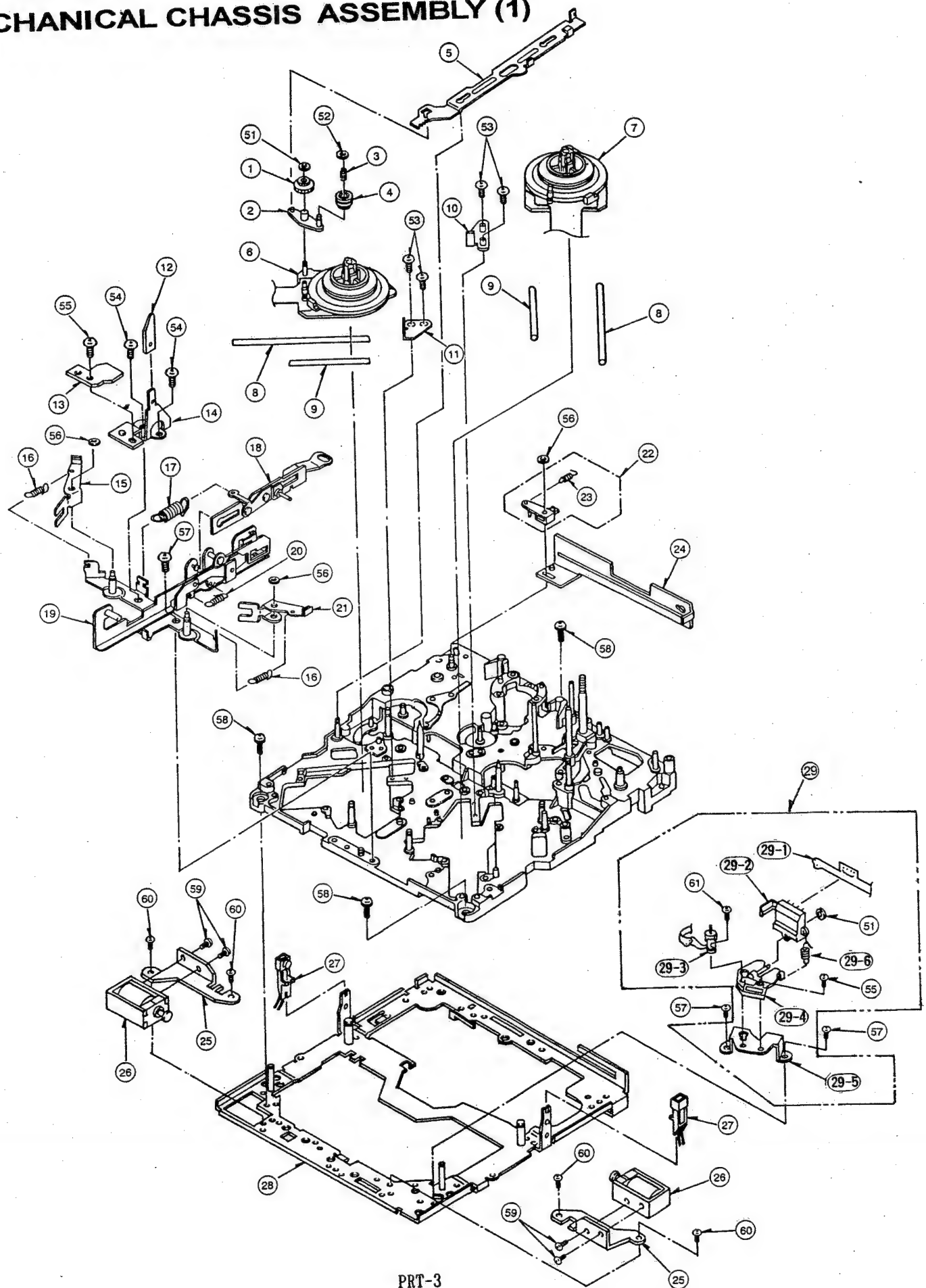


MECHANICAL CHASSIS ASSEMBLY (1)

AJ-D200HE


[illegible]

MECHANICAL CHASSIS ASSEMBLY (1)

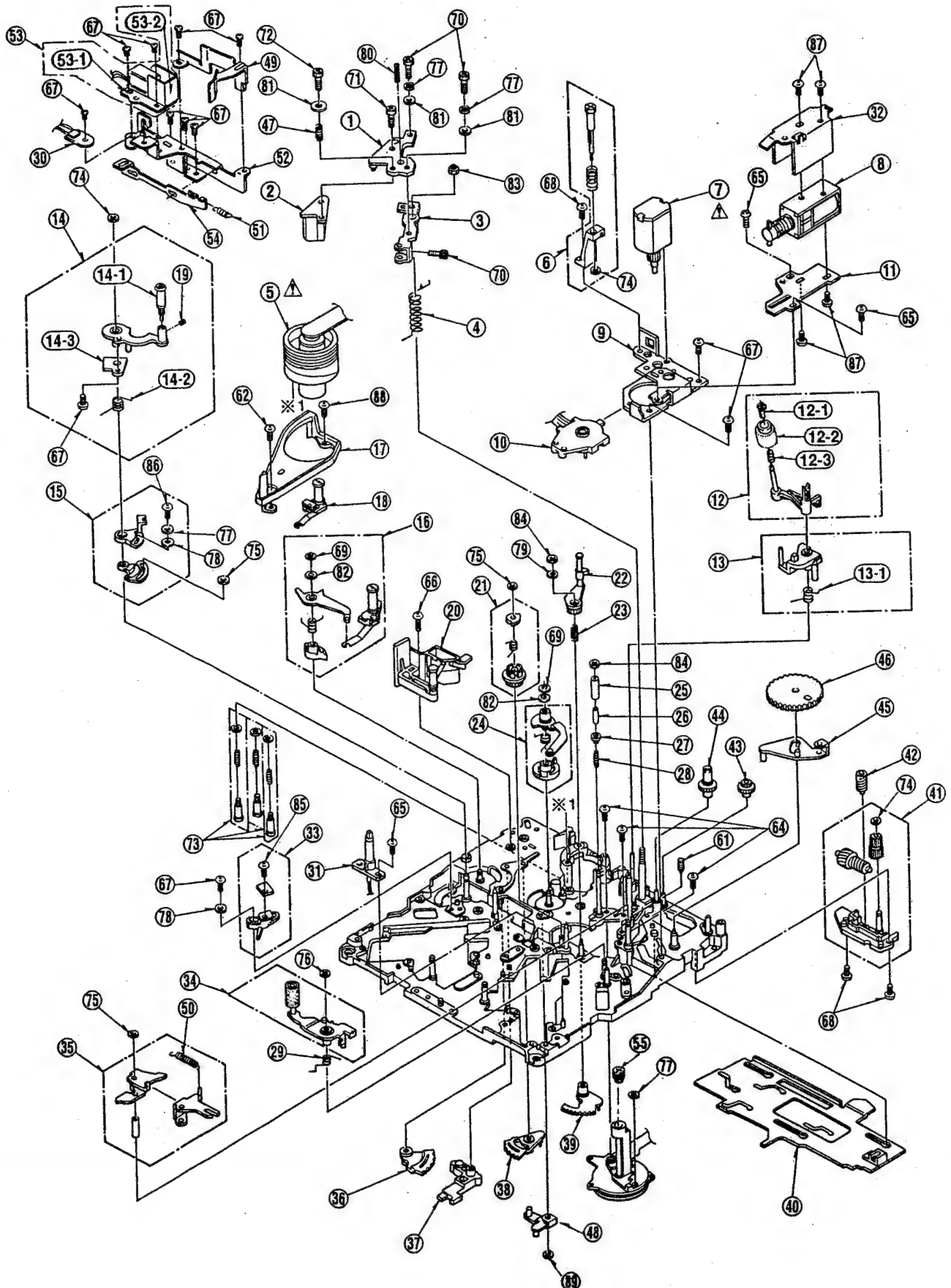


Components identified with the mark have the special characteristics for safety. With any of these components, use only the same type.

PRT-4

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

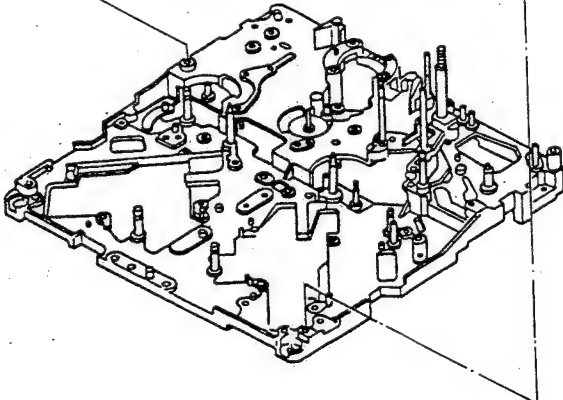
MECHANICAL CHASSIS ASSEMBLY (2)



AJ-D200HE

PRT-5


CASSETTE COMPARTMENT ASSEMBLY

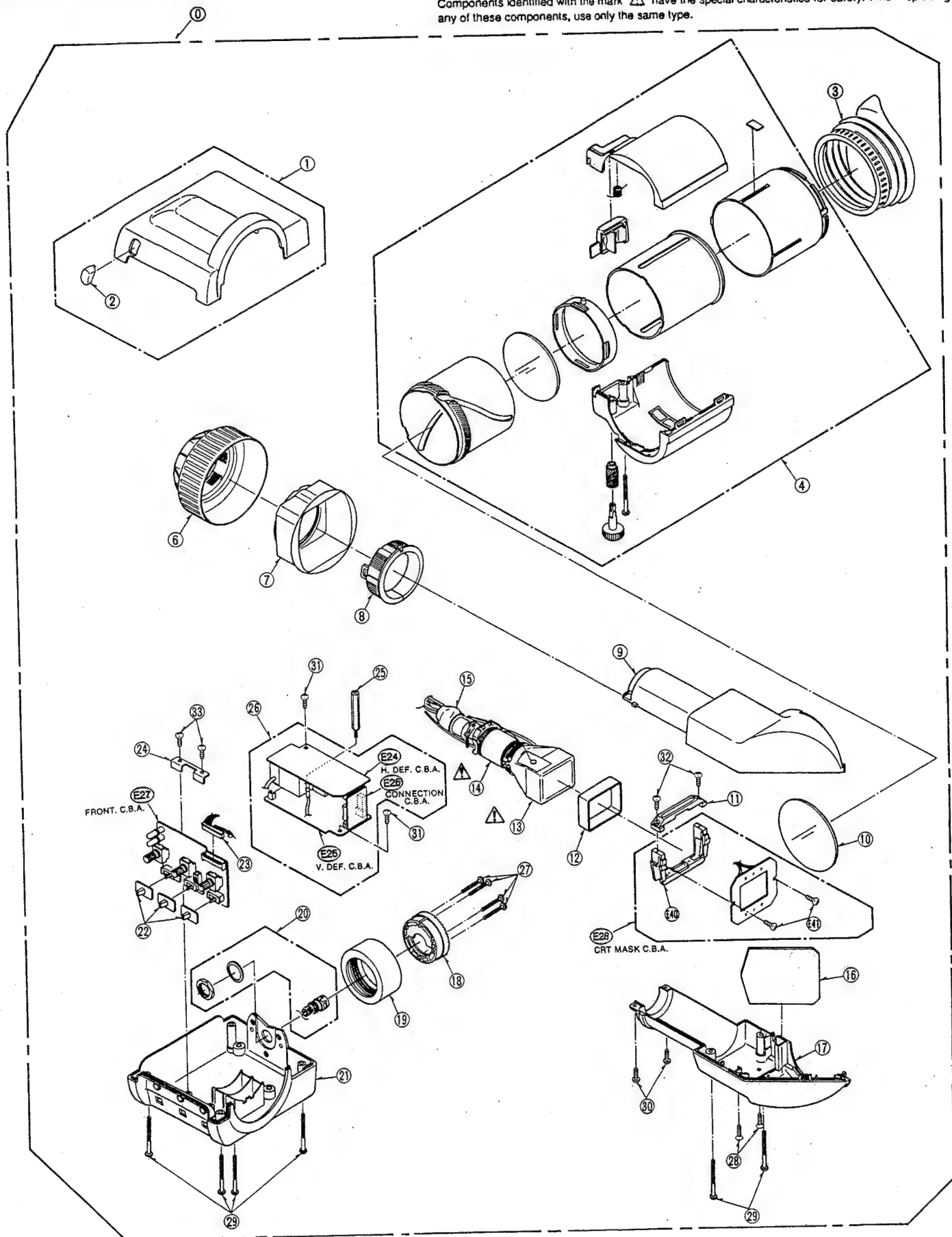


Components identified with the mark have the special characteristics for safety. When replacing any of these components, use only the same type.

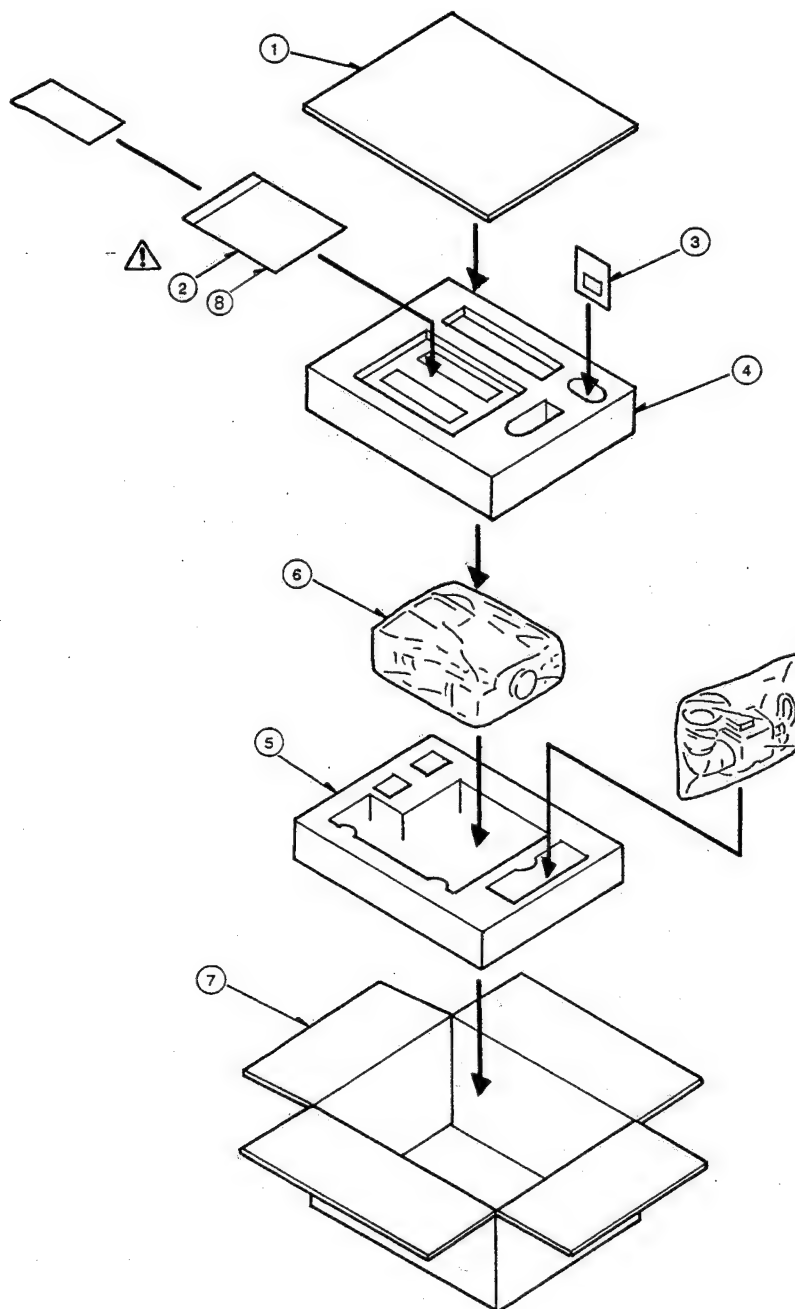
[illegible][illegible]

EVF ASSEMBLY

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.



PACKING PARTS ASSEMBLY



PACKING PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VPN3922	TOP PAD	1	
2	VQT7073	OPERATING INSTRUCTIONS	1	
3	VEJ1672	BATTERY ADAPTOR U	1	
4	VPN4613	CUSHION (UPPER)	1	
5	VPN4614	CUSHION (LOWER)	1	
6	VPF0884	POLYETHYLENE BAG	1	
7	VPQ8917	PACKING CASE	1	
8	VXF0151	EMERGENCY EJECT U.	1	

[illegible]

AJ-D200HE

PRT-8

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP82212B	SERVO P.C. BOARD	1	(RTL)
C100, 01	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C103	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C107	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C108	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C109	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C110	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1	
C111	ECUX1H122KBV	C. CAPACITOR CH 50V 1200P	1	
C113	VCE0180	CAPACITOR	1	
C116	VCE0180	CAPACITOR	1	
C119-21	ECEVICV100Q	E. CAPACITOR CH 16V 10U	3	
C123	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1	
C124	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
C125	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1	
C126	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C127	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C128	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C129	ECUX1H182KBV	C. CAPACITOR CH 50V 1800P	1	
C130	ECUX1H1000CV	C. CAPACITOR CH 50V 10P	1	
C133	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C134	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C135	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C137, 38	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C139	ECEV1EV220Q	E. CAPACITOR CH 25V 22U	1	
C140, 41	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	2	
C143	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C144-46	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C147	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
C200-04	VCE0180	CAPACITOR	5	
C207	ECEVOJV220Q	E. CAPACITOR CH6.3V 22U	1	
C208-10	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C211	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C212, 13	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
C217	ECEVOJV220Q	E. CAPACITOR CH6.3V 22U	1	
C218-20	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C221, 22	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
C223	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C224	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C228-30	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C234-36	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C240	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
C241	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C242	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C243	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
C244	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C245	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C246-48	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	3	
C250	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C251	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C252	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C253	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C254	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
C255	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C256	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
C304, 05	VCE0180	CAPACITOR	2	
C307, 08	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C309	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C310	VCC0037F432	C. CAPACITOR 432P	1	
C311	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C312	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C318, 19	VCE0180	CAPACITOR	2	
C321	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C322	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C323	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C324, 25	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C326	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C327-29	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C330	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C331	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C332	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C333	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C334, 35	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C336	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C337-39	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C340-42	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C343-46	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	4	
C349	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C351	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C353, 54	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
C357-59	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	3	
C401-04	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	4	
C407-10	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	4	
C411-13	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C414-16	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C418	ECEV1HV3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C419	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C420	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1	
C422-25	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	4	
C432	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C433	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C434	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1	
C435	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1	
C504	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C506	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1	
C507	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1	
C508-11	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
C514	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C515	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1	
C517	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1	
C518, 19	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	2	
C702	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C703	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C704	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C705	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
C706, 07	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C801	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C804-08	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	5	
C809	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C810, 11	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C812, 13	ECA12HG472L	E. CAPACITOR 4700U	2	
C817	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C903-05	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	3	
C906	ECUX1H1000CV	C. CAPACITOR CH 50V 10P	1	
D100	MA142K	DIODE	1	
D101, 02	MA143	DIODE	2	
D103	MA736	DIODE	1	
D200, 01	MA143	DIODE	2	
D202	MA728	DIODE	1	
D203	MA736	DIODE	1	
D204	MA728	DIODE	1	
D205	MA736	DIODE	1	
D206, 07	MA8047-H	DIODE	2	
D301	MA728	DIODE	1	
D302	MA736	DIODE	1	
D303	MA728	DIODE	1	
D304	MA736	DIODE	1	
D401	MA736	DIODE	1	
D402-05	MA143	DIODE	4	
D406	MA736	DIODE	1	
D502-04	MA142WA	DIODE	3	
D505	MA142WK	DIODE	1	
D701	MA143	DIODE	1	
D702	MA3062M	DIODE	1	
D703	MA738	DIODE	1	
D704	MA3056-L	DIODE	1	
D801-03	MA142WK	DIODE	3	
D807	MA142WK	DIODE	1	
D811, 12	MA142WK	DIODE	2	
D813	21DQ04	DIODE	1	
D814-16	MA142WK	DIODE	3	
D817-28	MA738	DIODE	12	
D829	NSQ03A04	DIODE	1	
D830	MA8051-H	DIODE	1	
D831, 32	NSQ03A04	DIODE	2	
D833	MA142WK	DIODE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC100	MN6755486H8E	IC	1		Q815	2SD1819A-R	TRANSISTOR	1	
IC101	SC371025AVFU	IC	1		Q816, 17	2SB1073-R	TRANSISTOR	2	
IC103	UPC4556G2	IC	1		Q819	2SD1819A-R	TRANSISTOR	1	
IC104	MN13821-S	IC	1		Q820	2SB1219A-R	TRANSISTOR	1	
IC105	TC7W04FU	IC	1		Q821, 22	2SD1624-S	TRANSISTOR	2	
IC110	XC62AP3002P	IC	1		Q823	2SB1219A-R	TRANSISTOR	1	
IC200, 01	AN3890FBS	IC	2		Q825	2SD1819A-R	TRANSISTOR	1	
IC202, 03	MDC05	IC	2		Q826, 27	2SB1073-R	TRANSISTOR	2	
IC204, 05	NJM2904M	IC	2		Q829	2SD1819A-R	TRANSISTOR	1	
IC207	NJM2904M	IC	1		Q830	2SB1219A-R	TRANSISTOR	1	
IC208	TA75W393FU	IC	1		Q831, 32	2SD1624-S	TRANSISTOR	2	
IC209	NJM2904M	IC	1		Q833	2SB1219A-R	TRANSISTOR	1	
IC210	TA75W393FU	IC	1		Q835	2SD1819A-R	TRANSISTOR	1	
IC301	TL1451CNS	IC	1		Q836, 37	2SB1073-R	TRANSISTOR	2	
IC302, 03	AN3841SR	IC	2		Q839	2SD1819A-R	TRANSISTOR	1	
IC401, 02	TA75W393FU	IC	2		Q840	2SB1219A-R	TRANSISTOR	1	
IC403	NJM2904M	IC	1		Q841, 42	2SD1624-S	TRANSISTOR	2	
IC404	MC14013BF	IC	1		Q843	2SB1219A-R	TRANSISTOR	1	
IC406, 07	UPC4558G2	IC	2		Q903	2SD1819A-R	TRANSISTOR	1	
IC409, 10	NJM2904M	IC	2		Q905-08	2SD1819A-R	TRANSISTOR	4	
IC501	VS12407B	IC	1		Q914	2SD1819A-R	TRANSISTOR	1	
IC501, 02	VS12407B	IC	1		Q918	2SD1819A-R	TRANSISTOR	1	
IC502	TC7W04FU	IC	1		Q922	2SD1819A-R	TRANSISTOR	1	
IC503	TA75W393FU	IC	1		Q924	2SD1819A-R	TRANSISTOR	1	
IC701	TA75W393FU	IC	1		Q926	2SD1819A-R	TRANSISTOR	1	
IC702	BA6219BFP-Y	IC	1		Q930	2SD1819A-R	TRANSISTOR	1	
IC801	MC14538BF	IC	1						
IC802	NJM2904M	IC	1		QR101, 02	UN5213	TRANSISTOR-RESISTOR	2	
IC803	MC14538BF	IC	1		QR106	UN5213	TRANSISTOR-RESISTOR	1	
IC804	MC74HC11F	IC	1		QR150	UN5213	TRANSISTOR-RESISTOR	1	
IC805	MC14049UBF	IC	1		QR305	UN5113	TRANSISTOR-RESISTOR	1	
					QR306	UN5213	TRANSISTOR-RESISTOR	1	
L101	VLQ0319K101	COIL	100UH	1	QR504	UN5213	TRANSISTOR-RESISTOR	1	
L102-04	VLQ0319K100	COIL	10UH	3	QR701, 02	UN5114	TRANSISTOR-RESISTOR	2	
L200	VLQ0407120M	COIL	12UH	1	QR703, 04	UN5214	TRANSISTOR-RESISTOR	2	
L201, 02	VLQ0407151K	COIL	150UH	2	QR801	UN5213	TRANSISTOR-RESISTOR	1	
L301	VLQ0214	COIL		1	QR804	UN5214	TRANSISTOR-RESISTOR	1	
L302, 03	VLQ0407151K	COIL	150UH	2	QR809, 10	UN5214	TRANSISTOR-RESISTOR	2	
L501	VLQ0319K100	COIL	10UH	1	QR813	UN5214	TRANSISTOR-RESISTOR	1	
L701	VLQ0319K101	COIL	100UH	1	QR814	UN5114	TRANSISTOR-RESISTOR	1	
					QR818	UN5114	TRANSISTOR-RESISTOR	1	
P1, P2	VJP3949A080H	CONNECTOR (MALE)		2	QR824	UN5114	TRANSISTOR-RESISTOR	1	
P600	VJP3172D003	CONNECTOR (MALE)		1	QR828	UN5114	TRANSISTOR-RESISTOR	1	
P601	VJP3172D002	CONNECTOR (MALE)		1	QR834	UN5114	TRANSISTOR-RESISTOR	1	
P602	VJP3172D004	CONNECTOR (MALE)		1	QR838	UN5114	TRANSISTOR-RESISTOR	1	
P603	VJP3172D002	CONNECTOR (MALE)		1	QR844-46	UN5214	TRANSISTOR-RESISTOR	3	
P604	VJP3172D003	CONNECTOR (MALE)		1	QR903-07	UN5214	TRANSISTOR-RESISTOR	5	
P605	VJP3518B002	CONNECTOR (MALE)		1	QR913	UN5214	TRANSISTOR-RESISTOR	1	
P606	VJP3172D003	CONNECTOR (MALE)		1	QR915	UN5214	TRANSISTOR-RESISTOR	1	
P607	VJS3801B010	CONNECTOR (FEMALE)		1	QR917	UN5214	TRANSISTOR-RESISTOR	1	
P608	VJP3518B002	CONNECTOR (MALE)		1	QR919-23	UN5214	TRANSISTOR-RESISTOR	5	
P609	VJP3172D002	CONNECTOR (MALE)		1	QR925	UN5214	TRANSISTOR-RESISTOR	1	
P610	VJP3518B003	CONNECTOR (MALE)		1					
P611	VJP3518B002	CONNECTOR (MALE)		1	R102, 03	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
P612	VJP3172D004	CONNECTOR (MALE)		1	R104	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
P613	VJS3406B015	CONNECTOR (FEMALE)		1	R112	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
P614, 15	VJS3422B017	CONNECTOR (FEMALE)		2	R118	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
P616	VJS3422B019	CONNECTOR (FEMALE)		1	R120-26	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	7	
P617	VJP12327	CONNECTOR (MALE)	5P	1	R128	ERJ3GEYJ682	M. RESISTOR CH 1/16W 8.8K	1	
P618	VJP3125B002	CONNECTOR (MALE)		1	R130	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
P619	VJP3809E060	CONNECTOR (MALE)		1	R131	ERJ3GEYJ334	M. RESISTOR CH 1/16W 330K	1	
P620	VJP33580022	CONNECTOR (MALE)		1	R132	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
					R133	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
Q100, 01	2SD1820-R	TRANSISTOR		2	R134	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
Q103, 04	2SD1820-R	TRANSISTOR		2	R135	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
Q105	2SB1219A-R	TRANSISTOR		1	R136	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
Q106	2SD1819A-R	TRANSISTOR		1	R137	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
Q200, 01	2SB1073-R	TRANSISTOR		2	R138	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
Q301, 02	2SB1073-R	TRANSISTOR		2	R139	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
Q401	2SB1219A-R	TRANSISTOR		1	R140	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
Q502, 03	2SD1819A-R	TRANSISTOR		2	R141	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
Q702	2SB1073-R	TRANSISTOR		1	R142	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
Q703	2SD1624-S	TRANSISTOR		1	R143	ERJ3GEYJ271	M. RESISTOR CH 1/8W 270	1	
Q811	2SB936A-Q	TRANSISTOR		1	R144	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
Q812	2SD1819A-R	TRANSISTOR		1	R145	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R146	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		R268-70	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
R148	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R271	ERJ3GEYJ334	M. RESISTOR CH 1/16W 330K	1	
R149	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R272	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R150	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R273	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R151	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R274	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R152	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R275	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R153	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R301, 02	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R154	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R303	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R155	ERJ3GEYG882	M. RESISTOR CH 1/16W 6.8K	1		R304	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R156, 57	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R305	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R158	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R306	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R160-66	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	7		R308-10	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
R167	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R312	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R172	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R313, 14	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R178	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R315	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R179, 80	VRE0034E223	M. RESISTOR CH 1/10W 22K	2		R316	ERJ3GEYJ474	M. RESISTOR CH 1/16W 470K	1	
R181	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R317	ERJ3GEYG154	M. RESISTOR CH 1/10W 150K	1	
R182	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R318	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R183	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R319	ERJ3GEYJ474	M. RESISTOR CH 1/16W 470K	1	
R185	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R320	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R190	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1		R327, 28	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R191	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R330	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	1	
R192-95	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	4		R332	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	1	
R196	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R334, 35	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R201	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R337, 38	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	2	
R202	ERJ8GEYJ681	M. RESISTOR CH 1/8W 680	1		R339	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R203, 04	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		R340, 41	ERJ8GEYJ681	M. RESISTOR CH 1/8W 680	2	
R205	VRE0034E333	M. RESISTOR CH 1/10W 33K	1		R342	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R206	VRE0034E223	M. RESISTOR CH 1/10W 22K	1		R344	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R208	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1		R346-49	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	4	
R209	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R356, 57	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2	
R210	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	1		R358	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R211	ERJ8GEYJ1R2	M. RESISTOR CH 1/8W 1.2K	1		R361	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R212	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R362	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R213, 14	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R363	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R215	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R364	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R216	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R371, 72	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	2	
R217	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R401	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R218	ERJ8GEYJ681	M. RESISTOR CH 1/8W 680	1		R402	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R219, 20	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2		R406	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R221	VRE0034E333	M. RESISTOR CH 1/10W 33K	1		R407	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R222	VRE0034E223	M. RESISTOR CH 1/10W 22K	1		R408	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R224	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1		R411	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R225	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R412	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R226	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	1		R416	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R227	ERJ8GEYJ1R2	M. RESISTOR CH 1/8W 1.2K	1		R417	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R228	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R418	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R229, 30	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R421	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R231	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R422	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R232	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R426	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R237	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R427	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R238	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R428	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R239	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R431	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R240	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R432	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R241	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R436	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R242	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1		R437	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R243	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R438	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R244	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R441, 42	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R245	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R443	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R246	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R444	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R247	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R445	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R248	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R448	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R249	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1		R449	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R250	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R451	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R251, 52	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	2		R461	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R253	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R468, 69	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R254	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1		R470	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R256	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R471	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R260, 61	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	2		R472, 73	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R262	ERJ3GEYJ564	M. RESISTOR CH 1/16W 560K	1		R503-06	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4	
R263	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R508	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R264	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1		R509	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R265	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1		R510	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R266	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R512	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R267	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		R513	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R514	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R517, 18	VRE0034E223	M. RESISTOR CH 1/10W 22K	2	
R519, 20	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R524	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R526	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R527	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R528	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R533	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R534	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R535	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R536	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R537-40	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4	
R541	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R542	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R543	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R544	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R545-51	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	7	
R552	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R553	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R556, 57	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R558	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R559	ERJ3GEYJ511	M. RESISTOR CH 1/16W 510	1	
R560, 61	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R600	ERJ12YOR00	M. RESISTOR CH 1/2W 0	1	
R701, 02	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R703	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R704	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R706	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R707	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R708	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R709	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R710	ERJ3GEYJ394	M. RESISTOR CH 1/16W 390K	1	
R711	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R712, 13	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R714	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R715	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R716, 17	ERJ8GEYJ101	M. RESISTOR CH 1/8W 100	2	
R718	ERJ8GEYJ300	M. RESISTOR CH 1/8W 30	1	
R721	ERJ8GEYG271	M. RESISTOR CH 1/10W 270	1	
R722	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R727-30	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	4	
R731-34	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	4	
R735	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R736	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R737, 38	ERJ8GEYJ102	M. RESISTOR CH 1/8W 1K	2	
R747	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R748	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R749	ERJ8GEYOR00	M. RESISTOR CH 1/8W 0	1	
R801	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R803, D4	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R805	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R806	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R810, 11	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R815-17	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
R819, 20	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	2	
R821	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R822	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R823-25	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	3	
R826, 27	ERJ3GEYJ394	M. RESISTOR CH 1/16W 390K	2	
R828	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R829	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R830	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R831, 32	ERJ8GEYJ391	M. RESISTOR CH 1/8W 390	2	
R833	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R834, 35	ERJ8GEYJ391	M. RESISTOR CH 1/8W 390	2	
R836	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R837	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R838	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R839	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R840, 41	ERJ8GEYJ391	M. RESISTOR CH 1/8W 390	2	</

VEP00W08B VEP84297B
VEP80A44A VEP80A43A

Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

AJ-D200HE

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VSC4607	SHIELD CASE	1	
■ E2	VEP00W08B	HEAD PHONE P. C. BOARD	1 (RTL)	
C9201, 02	ECKF1H102ZF	C. CAPACITOR 50V 1000P	2	
J9201	VJJ0522	JACK	1	
L1, L2	VLP0147	COIL	2	
P9201	VJP1608T	CONNECTOR (MALE)	1	
■ E3	VEP80A44A	DC INPUT P. C. BOARD	1 (RTL)	
D1	S3V40	DIODE	1	
		MISCELLANEOUS		
	VJP2717	CONNECTOR	1	
	VEE9423	EX DC CABLE UNIT	1	
■ E4	VEP84297B	REAR JACK P. C. BOARD	1 (RTL)	
C1001-06	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	6	
C1007	ECEV10V470Q	E. CAPACITOR CH 16V 47U	1	
C1008	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C1009	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C1010	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
C1011	ECEV10V470Q	E. CAPACITOR CH 16V 47U	1	
C1012	ECOB2332JF	P. CAPACITOR	1	
C1014	EGUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C1015	ECEVOJN100Q	E. CAPACITOR CH 6.3V 10U	1	
C1016	EGUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C1017	VCC0030	C. CAPACITOR	1	
C1018	ECUM1H273KBN	C. CAPACITOR CH 50V 0.027U	1	
C1019	EGUX1H822KBV	C. CAPACITOR CH 50V 8200P	1	
C1020	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C1021	EGUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C1022	ECEVOJN100Q	E. CAPACITOR CH 6.3V 10U	1	
C1023	EGUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C1024	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C1025	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C1026	VCE0180	CAPACITOR	1	
C1027	EGUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C1028, 29	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C1030, 31	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C1032	ECEVOGV221Q	E. CAPACITOR CH 4V 220U	1	
Δ CB1001	VSG0834	CIRCUIT PROTECTOR	1	
D1001	S3V60	DIODE	1	
D1002	MA142K	DIODE	1	
FL1001	EIR7QF012B	TRANSFORMER	1	
IC1001, 02	NJM4558M-D	IC	2	
L1002, 03	VLF1315A102	FILTER	2	
L1005	VLF1315A102	FILTER	1	
L1007, 08	VLF1315A102	FILTER	2	
L1010	VLF1315A102	FILTER	1	
L1011, 12	VLF1151A132	COIL	2	
L1013	VLP0320	COIL	1	
L1014	VLO423J472	COIL 4700UH	1	
L1015-22	VLF1315A102	FILTER	8	
L1023	ELELN560KA	COIL	1	
P1001	VJS2907D025	CONNECTOR (FEMALE)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P1002	VJP2824B002	CONNECTOR (MALE)	1	
P1003	VJP2824A003	CONNECTOR (MALE) 3P	1	
P1004	VJP3518B008	CONNECTOR (MALE)	1	
P1005	VJP3125B009	CONNECTOR (MALE)	1	
P1006, 07	VJP3125B004	CONNECTOR (MALE)	2	
P1008, 09	VJS3551	CONNECTOR (FEMALE)	2	
Q1001	2SJ280S	TRANSISTOR	1	
Q1002	2SB779-Q	TRANSISTOR	1	
Q1003	2SD1819A-R	TRANSISTOR	1	
Q1004	2SD874-R	TRANSISTOR	1	
Q1005	2SD1979	TRANSISTOR	1	
Q1006	2SB1220-R	TRANSISTOR	1	
Q1007, 08	2SD1821-R	TRANSISTOR	2	
Q1009, 10	2SD1979	TRANSISTOR	2	
QR1001-06	UN5113	TRANSISTOR-RESISTOR	6	
R1001	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R1002	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R1003	ERJ6GEYJ1R0	M. RESISTOR CH 1/10W 1	1	
R1004	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R1005	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1006	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R1007	ERJ8GEYJ1R0	M. RESISTOR CH 1/8W 1	1	
R1008	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R1009	ERJ3GEYJ390	M. RESISTOR CH 1/16W 39	1	
R1010	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1011	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R1012	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1014	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1015	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R1016	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1	
R1017	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R1018	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1019	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R1020	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1021	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R1022, 23	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	2	
R1024	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R1025, 26	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	2	
R1027	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R1028	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R1029	ERJ3GEYR000	M. RESISTOR CH 1/16W 0	1	
R1030	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R1031	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R1034	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1035	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1036	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1037	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1038	ERJ8GEYJ101	M. RESISTOR CH 1/8W 100	1	
SW1001	VSS0342	SWITCH	1	
T1001	VL70729	TRANSFORMER	1	
TG1001, 02	EYF6CU	TEST POINT	2	
VR1001	VRV0161B503	V. RESISTOR 50K	1	
VR1002	VRV0161B103	V. RESISTOR 10K	1	
		MISCELLANEOUS		
	VMP4846	JACK ANGLE	1	
	XYN3-K6	SCREW	1	
■ E5	VEP80A43A	AV OUT P. C. BOARD	1 (RTL)	
J3	VJS3154	CONNECTOR (FEMALE)	1	
J4	VJS3155	CONNECTOR (FEMALE)	1	
J5	VJJ0323	RCA PIN JACK	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L9701-03	VWJ0121	CABLE	3		C1078, 79	ECUM1E105ZFN	C. CAPACITOR CH 25V 1U	2	
P9700	VJP1810T	CONNECTOR (MALE)	1		C1080	ECEV1HNR47Q	E. CAPACITOR CH 50V 0.47U	1	
P9701	VJP1607T	CONNECTOR (MALE)	1		C1101	VCK0284	C. CAPACITOR	1	
					C1102	ECG0188150	C. CAPACITOR 12V 15P	1	
					C1103	VCK0284	C. CAPACITOR	1	
■ E6	VEP00Y56A	SERVO FLEXIBLE P.C. BOARD	1 (RTL)		C1104	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
					C1105	VCE0180	CAPACITOR	1	
					C1106	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
P1, P2	VJS3806E060	CONNECTOR (FEMALE)	2		C1107	ECUM1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
					C1108	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
					C1109	ECUX1C333KBV	C. CAPACITOR CH 16V 0.033U	1	
■ E7	VEP81179A	POWER P.C. BOARD	1 (RTL)		C1110	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	1	
					C1111	ECUX1C273KBV	C. CAPACITOR CH 16V 0.027U	1	
					C1112	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	1	
C1001	VCE0180	CAPACITOR	1		C1113	ECUX1H821JCV	C. CAPACITOR CH 50V 820P	1	
C1002	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1		C1114	EGST1AY225Z	T. CAPACITOR CH 10V 2.2U	1	
C1003	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		C1115	EGST1CY105Z	T. CAPACITOR CH 16V 1U	1	
C1004	ECEV1HV010Q	E. CAPACITOR CH 50V 1U	1		C1116	EGST1VY474Z	T. CAPACITOR CH 35V 0.47U	1	
C1005	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1		C1117	ECUX1H103ZVF	C. CAPACITOR CH 50V 0.01U	1	
C1006	ECUM1C474KBM	C. CAPACITOR CH 16V 0.47U	1		C1118	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
C1007	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1119	ECUM1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C1008	ECUM1H103KBN	C. CAPACITOR CH 25V 0.01U	1		C1120	ECUX1H822KBV	C. CAPACITOR CH 50V 8200P	1	
C1009	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1121	ECUX1H471KBV	C. CAPACITOR CH 50V 470P	1	
C1010	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		C1122	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C1011-13	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	3		C1123	ECUX1H821JCV	C. CAPACITOR CH 50V 820P	1	
C1014	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C1124	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C1015	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1125, 26	ECUX1H821JCV	C. CAPACITOR CH 50V 820P	2	
C1016	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		C1127, 28	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C1017, 18	VCEA1DAP101	E. CAPACITOR 20V 100U	2		C1129	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C1021	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C1130	VCK0284	C. CAPACITOR	1	
C1022	VCE0180	CAPACITOR	1		C1131	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C1023	ECUX1H881JV	C. CAPACITOR CH 50V 880P	1		C1132	ECUX1C273KBV	C. CAPACITOR CH 16V 0.027U	1	
C1024	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C1133	VCE0180	CAPACITOR	1	
C1025	VCE0180	CAPACITOR	1		C1134, 35	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
C1026	ECUX1H881JV	C. CAPACITOR CH 50V 880P	1		C1136	VCK0284	C. CAPACITOR	1	
C1027	VCE0180	CAPACITOR	1		C1137	ECUX1H331JCV	C. CAPACITOR CH 50V 330P	1	
C1028	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		C1138	ECUX1C273KBV	C. CAPACITOR CH 16V 0.027U	1	
C1029	VCE0180	CAPACITOR	1		C1139	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C1030	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		C1140	ECUX1H122KBV	C. CAPACITOR CH 50V 1200P	1	
C1031	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C1141	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1	
C1033	VCE0180	CAPACITOR	1		C1142, 43	EGA1EFQ221	E. CAPACITOR 25V 220U	2	
C1034	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1144-47	VCK0284	C. CAPACITOR	4	
C1035	VCE0180	CAPACITOR	1		C1148	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C1036, 37	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2		C1149	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C1038	ECEV1EV4R7Q	E. CAPACITOR CH 25V 4.7U	1		C1150	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C1039	ECEV1HV010Q	E. CAPACITOR CH 50V 1U	1		C1151	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C1042	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1152	ECEVJ330Q	E. CAPACITOR CH 6.3V 33U	1	
C1043	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C1153	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C1044	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C1206	VCK0284	C. CAPACITOR	1	
C1045	ECUX1C273KBV	C. CAPACITOR CH 16V 0.027U	1		C1207	EGA1EFQ221	E. CAPACITOR 25V 220U	1	
C1046-48	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	3		C1208	VCK0284	C. CAPACITOR	1	
C1049	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1		C1209	EGA1EFQ221	E. CAPACITOR 25V 220U	1	
C1050	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1						
C1051	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D1001	MA143	DIODE	1	
C1053	VCE0180	CAPACITOR	1		D1004-06	MA736	DIODE	3	
C1054	ECUX1H881JV	C. CAPACITOR CH 50V 880P	1		D1007	MA143	DIODE	1	
C1055	VCE0180	CAPACITOR	1		D1008	MA736	DIODE	1	
C1056	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		D1009	MA736	DIODE	1	
C1057	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D1010	NSQ03A04	DIODE	1	
C1059	VCE0180	CAPACITOR	1		D1011	EC10QS1012	DIODE	1	
C1060	ECUX1H881JV	C. CAPACITOR CH 50V 880P	1		D1014	MA736	DIODE	1	
C1061	VCE0180	CAPACITOR	1		D1015	MA736	DIODE	1	
C1062	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1		D1017, 18	MA142WK	DIODE	2	
C1063	VCEA1DAP680	E. CAPACITOR 20V 68U	1		D1101	MA142K	DIODE	1	
C1066	VCEA1AAP221	E. CAPACITOR 10V 220U	1		D1102	SB05-050P	DIODE	1	
C1067	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D1103	MA142K	DIODE	1	
C1068	ECUM1H123KBV	C. CAPACITOR CH 50V 0.012U	1		D1106-12	MA8068-H	DIODE	7	
C1069	VCEA1CAP101	E. CAPACITOR 16V 100U	1						
C1070	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1		IC1001, 02	BA9706K	IC	2	
C1071	EGA1EFQ820	E. CAPACITOR 25V 82U	1		IC1003	LM2577MX-ADJ	IC	1	
C1072	EGA1JFQ560	E. CAPACITOR 63V 56U	1		IC1004	BA9707KV	IC	1	
C1073	ECUM1H104KBM	C. CAPACITOR CH 50V 0.1U	1						
C1074	EGA1JFQ560	E. CAPACITOR 63V 56U	1		L1001	VLQ0407120M	COIL 12UH	1	
C1077	ECEV1HV3R3Q	E. CAPACITOR CH 50V 3.3U	1		L1002, 03	VLQ0822	COIL	2	
					L1004	VLQ0297	COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L1005	VLQ0407680K	C01L 68UH	1	
L1007	VLQ0621	C01L	1	
L1009	VLQ0621	C01L	1	
L1010	VLQ0407680K	C01L 68UH	1	
L1012	VLQ0621	C01L	1	
L1013	VLQ0407680K	C01L 68UH	1	
L1014	VLQ0642	C01L	1	
L1015	VLQ0417	C01L 10UH	1	
L1016	VLQ0319K680	C01L	1	
L1017	VLQ0621	C01L	1	
L1018	VLQ0407680K	C01L 68UH	1	
L1101	ELC5SB3R9M	C01L 3.9UH	1	
L1102	ELL7SR330M	C01L	1	
L1103	ELC5SB4R7M	C01L 4.7UH	1	
L1104	ELL7SR470M	C01L	1	
L1105	ELC5SB4R7M	C01L 4.7UH	1	
L1106	ELL7SR220M	C01L	1	
L1107	VLQ0319K100	C01L 10UH	1	
L1108	VLQ0319K220	C01L 22UH	1	
L1109	VLQ0319K100	C01L 10UH	1	
L1110	VLQ0319K220	C01L 22UH	1	
P1001	VJS2889A025	CONNECTOR (FEMALE)	1	
P1002	VJS2698A026	CONNECTOR (FEMALE)	1	
P1003	VJP1231T	CONNECTOR (MALE) 4P	1	
Q1001, 02	2SJ245S	TRANSISTOR	2	
Q1003, 04	2SD1820A-R	TRANSISTOR	2	
Q1005	2SB1219A	TRANSISTOR	1	
Q1006	2SJ245S	TRANSISTOR	1	
Q1007	2SD1820A-R	TRANSISTOR	1	
Q1008	2SB1219A	TRANSISTOR	1	
Q1009	2SJ245S	TRANSISTOR	1	
Q1010	2SD1820A-R	TRANSISTOR	1	
Q1011	2SB1219A	TRANSISTOR	1	
Q1012	2SJ245S	TRANSISTOR	1	
Q1013	2SD1820A-R	TRANSISTOR	1	
Q1014	2SB1219A	TRANSISTOR	1	
Q1015	2SJ279S	TRANSISTOR	1	
Q1016	2SB1219A	TRANSISTOR	1	
Q1017	2SD1820A-R	TRANSISTOR	1	
Q1019	2SD1820A-R	TRANSISTOR	1	
Q1020	2SB1219A	TRANSISTOR	1	
Q1022	2SD1820A-R	TRANSISTOR	1	
Q1101-03	FP102	TRANSISTOR	3	
Q1104	2SB798	TRANSISTOR	1	
Q1105, 06	2SJ245S	TRANSISTOR	2	
R1001	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R1002	VRE0034E393	M. RESISTOR CH 1/10W 39K	1	
R1003	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1004	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1005, 06	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	2	
R1007	VRE0034E473	M. RESISTOR CH 1/10W 47K	1	
R1008	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1009	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1010	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1011	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R1012	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R1013	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R1014	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
R1015	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R1016	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1018	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R1019	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R1021	VRE0034E432	M. RESISTOR CH 1/10W 4.3K	1	
R1022	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	1	
R1023	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1024	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1025	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R1026	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R1027	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R1030	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R1031	VRE0034E133	M. RESISTOR CH 1/10W 13K	1	
R1032	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1033	VRE0034E393	M. RESISTOR CH 1/10W 39K	1	
R1034	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1035, 36	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	2	
R1038	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1039	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1040	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R1041	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1042	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R1043, 44	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	2	
R1045, 46	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R1047	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1048	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R1049, 50	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R1051	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R1054	VRE0034E563	M. RESISTOR CH 1/10W 56K	1	
R1055	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R1056	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R1057	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1058	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R1060	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1062	VRE0034E163	M. RESISTOR CH 1/10W 16K	1	
R1063	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R1064	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R1065	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	1	
R1066	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R1069	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1070	VRE0071E103	M. RESISTOR CH 1/16W 10K	1	
R1071	VRE0071E152	M. RESISTOR CH 1/16W 1.5K	1	
R1072	ERJ14YJ1R0	M. RESISTOR CH 1/4W 1.0	1	
R1073	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	1	
R1074	VRE0034E683	M. RESISTOR CH 1/10W 68K	1	
R1075	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	1	
R1076	VRE0034E101	M. RESISTOR CH 1/10W 100	1	
R1077	ERJ8GEYJ101	M. RESISTOR CH 1/8W 100	1	
R1078	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1080	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R1081	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R1082	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R1083	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1085	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R1086	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R1087	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R1088	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1089	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1092	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R1093	VRE0034E393	M. RESISTOR CH 1/10W 39K	1	
R1096, 97	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	2	
R1101	VRE0071E822	M. RESISTOR CH 1/16W 8.2K	1	
R1102	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1103	VRE0071E151	M. RESISTOR CH 1/16W 150	1	
R1104	VRE0071E242	M. RESISTOR CH 1/16W 2.4K	1	
R1105	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1106	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R1107, 08	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	2	
R1109	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R1110	VRE0034E513	M. RESISTOR CH 1/10W 51K	1	
R1111	VRE0034E273	M. RESISTOR CH 1/10W 27K	1	
R1112, 13	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	2	
R1114	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	1	
R1115	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1116, 17	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R1118, 19	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	2	
R1120	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R1121	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1122	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R1123	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R1124	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R1125	VRE0034E361	M. RESISTOR CH 1/10W 360	1	
R1126	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R1127	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1128	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R1129	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1	
R1130	VRE0034E242	M. RESISTOR CH 1/10W 2.4K	1	
R1131	VRE0034E152	M. RESISTOR CH 1/10W 1.5K	1	
R1132	VRE0071E301	M. RESISTOR CH 1/16W 300	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R1133	VRE0034E103	M. RESISTOR CH 1/10W 10K	1		C147	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
R1134	ERJ8GEYJ101	M. RESISTOR CH 1/8W 100	1		C148	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1	
R1135	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		C160	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
R1136	VRE0034E433	M. RESISTOR CH 1/10W 43K	1		C161	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
R1137	VRE0034E753	M. RESISTOR CH 1/10W 75K	1		C162, 63	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
R1138	ERJ8GEYOR00	M. RESISTOR CH 1/10W 0	1		C164	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
R1143-45	ERJ3GEYJ880	M. RESISTOR CH 1/16W 88	3		C165	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
R1146	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		C166	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
R1201	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		C168-70	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
R1202	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100	1		C171	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	1	
R1203	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		C172	ECUM1C224KBM	C. CAPACITOR CH 16V 0.22U	1	
R1205	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		C173	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
R1206	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		C174	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
R1207	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		C175	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
R1208	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		C181	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
R1210	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		C182	ECEV1EN3R30	E. CAPACITOR CH 25V 3.3U	1	
R1211, 12	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		C183-85	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
R1213	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		C501	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
T1001	ELL7SRD006	COIL	1		C504	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
TP1001-09	EYF6CU	TEST POINT	9		C505	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1	
TP1101-08	EYF6CU	TEST POINT	8		C506	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR1001-05	EVM7JGA00B23	V. RESISTOR 2K	5		C1001	ECEA1HU220	E. CAPACITOR 50V 22U	1	
VR1006	EVM7JGA00B52	V. RESISTOR 500	1		C3001, 02	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
W1-W4	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	4		C3003	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
■ E8	VEP83356B	VTR MAIN P.C. BOARD	1	(RTL) INCLUDING E8	C3004, 05	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
■ E9	VEP84307A	AGC SUB P.C. BOARD	1	(RTL) INCLUDED E8	C3006	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C1	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3007	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C2	VCK0151	C. CAPACITOR	1		C3008	ECEVOJV101Q	E. CAPACITOR CH6.3V 100U	1	
C3, C4	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3008, 10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C5	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1		C3011	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C8	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3012	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C9	VCK0152	C. CAPACITOR	1		C3013	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C11	VCK0152	C. CAPACITOR	1		C3014	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C13	VCK0152	C. CAPACITOR	1		C3018	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C16, 17	VCK0152	C. CAPACITOR	2		C3019	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1	
C19	VCK0152	C. CAPACITOR	1		C3020, 21	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C21	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		C3022	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C22, 23	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	2		C3023, 24	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C24	VCK0152	C. CAPACITOR	1		C3025	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C25	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C3026-30	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
C26	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3100	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C32, 33	VCK0151	C. CAPACITOR	2		C3102	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
C34	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3104	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C35	VCK0151	C. CAPACITOR	1		C3105, 06	ECUX1H040CCV	C. CAPACITOR CH 50V 4P	2	
C38	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1		C3107	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C39, 40	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3109	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
C41	ECST1AX106Z	T. CAPACITOR CH 10V 10U	1		C3111	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C42, 43	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3112, 13	ECUX1H040CCV	C. CAPACITOR CH 50V 4P	2	
C44	VCK0151	C. CAPACITOR	1		C3114, 15	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C45, 46	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3200	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C47	ECST1AX106Z	T. CAPACITOR CH 10V 10U	1		C3208	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C48	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3210	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C49	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		C3211	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C50	ECUX1H682KBV	C. CAPACITOR CH 50V 6800P	1		C3212	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C51-53	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C3213	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C54	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1		C3214, 15	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C82	VCK0151	C. CAPACITOR	1		C3217, 18	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C86	VCK0151	C. CAPACITOR	1		C3219	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C86	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3220, 21	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C87	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1		C3223, 24	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C89, 91	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3225	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C92	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1		C3231	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C93-95	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C3232	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C98	ECEVOGV470Q	E. CAPACITOR CH 4V 47U	1		C3233	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C103	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3234	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C141	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C3235, 36	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C146	VCK0152	C. CAPACITOR	1		C3238	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C3240, 41	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
					C3243-48	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
					C3257-60	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
					C3261, 62	ECEV1EV47Q	E. CAPACITOR CH 25V 4.7U	2	
					C3263	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C3264	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
					C3265	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C3266	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3267, 68	EGUX1H101JCV	C. CAPACITOR CH 50V 100P	2		C4105	EGUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C3269	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4106	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1	
C3270	ECEV1HNR22Q	E. CAPACITOR CH 50V 0.22U	1		C4107	EGST1AC476Z	T. CAPACITOR CH 10V 47U	1	
C3271, 72	EGUX1H221JCV	C. CAPACITOR CH 50V 220P	2		C4108	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3300-07	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	8		C4110	EGUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C3309	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4111, 12	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	2	
C3311	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C4113, 14	EGUX1H151JCV	C. CAPACITOR CH 50V 150P	2	
C3312	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4115, 16	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3313	EGUX1H150JCV	C. CAPACITOR CH 50V 15P	1		C4117	EGUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C3314-17	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		C4118	EGUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C3319	EGUX1H880JCV	C. CAPACITOR CH 50V 88P	1		C4119	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3320	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4120	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C3321	EGUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C4121	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3322	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C4122	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C3323	EGUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C4123	EGUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C3324	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4124	ECEV0JV470Q	E. CAPACITOR CH6.3V 47U	1	
C3500	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	1		C4125, 26	EGUH1H104JB	P. CAPACITOR 50V 0.1U	2	
C3501-08	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	8		C4129	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3509, 10	EGUX1H122KBV	C. CAPACITOR CH 50V 1200P	2		C4130	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C3511-14	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		C4131	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3515	EGUX1H680JCV	C. CAPACITOR CH 50V 68P	1		C4132	EGUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C3516-22	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	7		C4133	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3523-26	EGUX1H152KBV	C. CAPACITOR CH 50V 1500P	4		C4134, 35	ECEV0JN100Q	E. CAPACITOR CH6.3V 10U	2	
C3527-29	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C4136	ECEV0JV220Q	E. CAPACITOR CH6.3V 22U	1	
C3530	EGUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		C4137	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3531	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C4201, 02	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	2	
C3532-34	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C4203, 04	EGUH1H104JB	P. CAPACITOR 50V 0.1U	2	
C3535	EGUX1H152KBV	C. CAPACITOR CH 50V 1500P	1		C4205, 06	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3536-51	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	16		C4207	EGUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C3552	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1		C4208	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1	
C4001, 02	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2		C4209	EGST1AC476Z	T. CAPACITOR CH 10V 47U	1	
C4003	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4210	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4004, 05	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	2		C4211	EGUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
C4006, 07	EGUH1H103JB	P. CAPACITOR 50V 0.01U	2		C4213, 14	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	2	
C4008	ECEV0JV470Q	E. CAPACITOR CH6.3V 47U	1		C4215, 16	EGUX1H151JCV	C. CAPACITOR CH 50V 150P	2	
C4011-14	ECEV0JV470Q	E. CAPACITOR CH6.3V 47U	4		C4217, 18	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C4015	EGUM1H104KBM	C. CAPACITOR CH 50V 0.1U	1		C4219	EGUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C4016-18	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C4220	EGUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C4019	ECEV0GV470Q	E. CAPACITOR CH 4V 47U	1		C4221	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4020	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4222	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C4021	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C4223	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4022	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4224	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1	
C4023	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1		C4225	EGUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C4024, 25	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C4226	ECEV0JV470Q	E. CAPACITOR CH6.3V 47U	1	
C4026	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1		C4227, 28	EGUH1H104JB	P. CAPACITOR 50V 0.1U	2	
C4027	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4229	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4028	EGUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		C4230	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4029, 30	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2		C4231	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4031	EGUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		C4232	EGUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C4032	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1		C4233	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4033	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4234, 35	ECEV0JN100Q	E. CAPACITOR CH6.3V 10U	2	
C4034	ECEV0JV330Q	E. CAPACITOR CH6.3V 33U	1		C4236	ECEV0JV220Q	E. CAPACITOR CH6.3V 22U	1	
C4035	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C4237	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4036	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1		C8001-05	EGUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	5	
C4037	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C8006, 07	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C4038	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C8008	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4039	ECEV0JV470Q	E. CAPACITOR CH6.3V 47U	1		C8009	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4040	EGST1VY684Z	T. CAPACITOR CH 35V 0.68U	1		C8010	EGUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C4041	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1		C8011, 12	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C4042	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1		C8013	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4043	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C8014-18	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	5	
C4045	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C8019	EGUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4046	EGUM1C105KBM	C. CAPACITOR CH 16V 1U	1		C8020	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C4047	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C8022	EGUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C4048	ECEV0JV101Q	E. CAPACITOR CH6.3V 100U	1		C8023	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C4049	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C8025, 26	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C4050	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		C8030-41	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	12	
C4051	EGUX1H182KBV	C. CAPACITOR CH 50V 1800P	1		C8042-47	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6	
C4052-57	EGUX1E104KBN	C. CAPACITOR CH 25V 0.1U	6		C8052	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C4058	EGUX1H182KBV	C. CAPACITOR CH 50V 1800P	1		C8053	EGUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C4059	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		C8055	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C4062	ECEA0JU331	E. CAPACITOR 6.3V 330U	1						
C4063	ECEA1HU100	E. CAPACITOR 50V 10U	1		D3200-03	MA142MK	DIODE	4	
C4101, 02	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	2		D4001, 02	MA143	DIODE	2	
C4103, 04	EGUH1H104JB	P. CAPACITOR 50V 0.1U	2		D4003	MA3220	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D4004	MA143	DIODE	1		IC4004	XC82AP3002P	IC	1	
D4101, 02	MA143	DIODE	2		IC4005	NJM062M-D	IC	1	
D4103	MA715	DIODE	1		IC4006	AK4503VF	IC	1	
D4104	MA142K	DIODE	1		IC4007	TC7W125FU	IC	1	
D4201, 02	MA143	DIODE	2		IC4008	BA8138F	IC	1	
D4203	MA715	DIODE	1		IC4009	MC14053BF	IC	1	
D4204	MA142K	DIODE	1		IC4010	NJM062M-D	IC	1	
D6001-08	MA715	DIODE	8		IC4011	CXA1102M	IC	1	
					IC4012	NJM062M-D	IC	1	
F6D1	ERJ3GEY0R00	M. RESISTOR CH 1/16W	0	1	IC4013	BA7785FS	IC	1	
					IC4101	NJM062M-D	IC	1	
FL1	VLF1118	FILTER	1		IC4102	NJM4580ED	IC	1	
FL3001	VLF0941C223	FILTER	1		IC4201	NJM062M-D	IC	1	
FL4001	VLF1069	FILTER	1		IC4202	NJM4580ED	IC	1	
					IC6001	M31010M6104H	IC	1	
IC1	MM67372A2	IC	1		IC6002	MAX3223CAP	IC	1	
IC2	MM4707F	IC	1		IC6003	S80727ANDQ	IC	1	
IC3	MM673711	IC	1		IC6009	TCVHC138FS	IC	1	
IC4	L7A1433	IC	1		IC6010	TCVHC04FS	IC	1	
IC5	L7A1434	IC	1		IC6011	MBLV80B12PF	IC	1	
IC6	XC82AP2302P	IC	1		IC6012	KM68V1BL	IC	1	
IC7, C8	TC7SH08FU	IC	2		IC6013	T163Q26-1019	IC	1	
IC9	TCVHC125FS	IC	1		IC6014, 15	MC74HC4052F	IC	2	
IC10	TC7S88FU	IC	1		IC6016	UPD8456T611Y	IC	1	
IC11	M65401FP	IC	1		IC6018	KM68V1BL	IC	1	
IC12	TC7W04FU	IC	1						
IC13	M52660FP	IC	1		L1	VLPO145	COIL	1	
IC16	MB81V4260S7	IC	1		L3-L5	VLPO155	COIL	3	
IC19	XC82AP3002P	IC	1		L6, L7	VLQ0319K101	COIL	100UH	2
IC20	XC82AP5002P	IC	1		L8	VLQ0163J220	COIL	22UH	1
IC22	M62370GP	IC	1		L11	VLPO155	COIL		1
IC23	XC82AP5002M	IC	1		L23	VLQ0464K6R8	COIL	6.8UH	1
IC24	XC82AP3002M	IC	1		L34	VLQ0319K101	COIL	100UH	1
IC25	TC7SH08FU	IC	1		L42	VLPO145	COIL		1
IC30	XC82DN5002P	IC	1		L44	VLQ0464K6R8	COIL	6.8UH	1
IC33	T160611-1233	IC	1		L501	VLQ0464K6R8	COIL	6.8UH	1
IC36	TCVHC08FS	IC	1		L1001-10	VLF1315A102	FILTER		10
IC37	TC7SH08FU	IC	1		L1011, 12	VLPO147	COIL		2
IC40	AD817AR	IC	1		L3001	VLQ0319K220	COIL	22UH	1
IC41	AD790JR	IC	1		L3002, 03	VLQ0319K101	COIL	100UH	2
IC42	TC7SH08FU	IC	1		L3100-03	VLQ0163J2R2	COIL	2.2UH	4
IC43	NJM2535M	IC	1		L3200-03	VLQ0163J330	COIL	33UH	4
IC45	TCVHC181FS	IC	1		L3300, 01	VLQ0163J1R0	COIL	1UH	2
IC46	TC7WU04FU	IC	1		L3303	VLQ0163JR22	COIL	0.22UH	1
IC51	NJM2904M	IC	1		L4001, 02	VLQ0163J100	COIL	10UH	2
IC501	M37709M4L161	IC	1		L4101, 02	VLQ0163J100	COIL	10UH	2
IC3001	TCVHC125FS	IC	1		L4201, 02	VLQ0163J100	COIL	10UH	2
IC3002	TC7S04FU	IC	1		L6001	VLQ0319K100	COIL	10UH	1
IC3003	XC82AP5002P	IC	1		L6002	VLQ0464K6R8	COIL	6.8UH	1
IC3005	XC82AP3002P	IC	1		L6003	VLQ0163J270	COIL	27UH	1
IC3006	XC82AP5002M	IC	1						
IC3007	XC82DN5002P	IC	1		P2	VJP3810E140	CONNECTOR (MALE)		1
IC3008	TCVHC125FS	IC	1		P3	VJP3809E060	CONNECTOR (MALE)		1
IC3009	TC7S00FU	IC	1		P4	VJS3406B025	CONNECTOR (FEMALE)		1
IC3010	TC7W02FU	IC	1		P6	VJP3125B009	CONNECTOR (MALE)		1
IC3011	TC7S04FU	IC	1		P7	VJP3125B008	CONNECTOR (MALE)		1
IC3100	TC7W04FU	IC	1		P8	VJS3406D014	CONNECTOR (FEMALE)		1
IC3101	TC7W00FU	IC	1		P9, 10	VJP3125B010	CONNECTOR (MALE)		2
IC3200, 01	TC4S89F	IC	2		P11	VJS3406B025	CONNECTOR (FEMALE)		1
IC3203	NJM062M-D	IC	1		P12	VJP3125B003	CONNECTOR (MALE)	3P	1
IC3204	XC82DN5002P	IC	1		P13	VJP3950A002	CONNECTOR (MALE)		1
IC3205, 06	TC4S89F	IC	2		P14	VJP3125B008	CONNECTOR (MALE)		1
IC3208	UPC1663G	IC	1		P3001	VJS3899B013	CONNECTOR (FEMALE)		1
IC3209	TC7W32FU	IC	1		P3002	VJP3358C012	CONNECTOR (MALE)		1
IC3210, 11	TC7S04FU	IC	2						
IC3300	UPC5102G5030	IC	1		Q6	2SB1218A-R	TRANSISTOR		1
IC3302	UPC1663G	IC	1		Q8	2SB1218A-R	TRANSISTOR		1
IC3303	TC7W08FU	IC	1		Q3001	2SB1114	TRANSISTOR		1
IC3304	TC7W04FU	IC	1		Q3002	2SD1280-S	TRANSISTOR		1
IC3500	AN3730FA	IC	1		Q3003	2SB1218A-R	TRANSISTOR		1
IC3501	AN3740FAP	IC	1		Q3100	2SB710A-R	TRANSISTOR		1
IC3502	MC14053BF	IC	1		Q3101	2SD1819A-R	TRANSISTOR		1
IC4001	UPC5022GA121	IC	1		Q3102, 03	2SC3735B35	TRANSISTOR		2
IC4002	HD151015	IC	1		Q3104	2SB710A-R	TRANSISTOR		1
IC4003	MC74HC04F	IC	1		Q3105	2SD1819A-R	TRANSISTOR		1

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q3106, 07	2SC3735B35	TRANSISTOR	2	
Q3201	2SA1532-B	TRANSISTOR	1	
Q3202-05	2SD1979	TRANSISTOR	4	
Q3207	2SC3935	TRANSISTOR	1	
Q3208, 09	2SC2954	TRANSISTOR	2	
Q3210	2SC3935	TRANSISTOR	1	
Q3212, 13	2SA1532-B	TRANSISTOR	2	
Q3214	2SC2954	TRANSISTOR	1	
Q3215	2SA1532-B	TRANSISTOR	1	
Q3216-19	2SD1979	TRANSISTOR	4	
Q3221, 22	2SC2954	TRANSISTOR	2	
Q3225, 26	2SA1532-B	TRANSISTOR	2	
Q3227	2SC2954	TRANSISTOR	1	
Q3228	2SD1280-S	TRANSISTOR	1	
Q3229	2SB1218A-R	TRANSISTOR	1	
Q3230	2SB1114	TRANSISTOR	1	
Q3235	2SB1114	TRANSISTOR	1	
Q3300	XN5531	TRANSISTOR-RESISTOR	1	
Q3304, 05	2SC3935	TRANSISTOR	2	
Q3306	2SC3930-B	TRANSISTOR	1	
Q3307	XN5531	TRANSISTOR-RESISTOR	1	
Q3500	2SC3930-B	TRANSISTOR	1	
Q3501	2SB1218A-R	TRANSISTOR	1	
Q3502	2SB1218A-R	TRANSISTOR	1	
Q4001	2SD1819A-R	TRANSISTOR	1	
Q4002	2SD802A-R	TRANSISTOR	1	
Q4003	2SB710A-R	TRANSISTOR	1	
Q4004	2SB1220-R	TRANSISTOR	1	
Q4005	2SD602A-R	TRANSISTOR	1	
Q4006	2SB1219A-R	TRANSISTOR	1	
Q4101, 02	2SD1979	TRANSISTOR	2	
Q4103-05	2SD1819A-R	TRANSISTOR	3	
Q4201, 02	2SD1979	TRANSISTOR	2	
Q4203-05	2SD1819A-R	TRANSISTOR	3	
QR3001	UN5213	TRANSISTOR-RESISTOR	1	
QR3100, 01	UN5213	TRANSISTOR-RESISTOR	2	
QR3200, 01	UN5213	TRANSISTOR-RESISTOR	2	
QR4001	UN5213	TRANSISTOR-RESISTOR	1	
QR4002	UN5113	TRANSISTOR-RESISTOR	1	
QR4003	UN5213	TRANSISTOR-RESISTOR	1	
QR4004	UN5113	TRANSISTOR-RESISTOR	1	
QR4005	UN5213	TRANSISTOR-RESISTOR	1	
QR6001-04	UN5114	TRANSISTOR-RESISTOR	4	
QR6005	UN5214	TRANSISTOR-RESISTOR	1	
QR6006, 07	UN5213	TRANSISTOR-RESISTOR	2	
QR6008	UN5214	TRANSISTOR-RESISTOR	1	
QR6009-11	UN221L	TRANSISTOR-RESISTOR	3	
QR6012, 13	UN5211	TRANSISTOR-RESISTOR	2	
QR6014-16	UN5213	TRANSISTOR-RESISTOR	3	
R22	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R31	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R34	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R41	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R42	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R47	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R52, 53	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R54	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R56	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R57	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R58	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R59	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R60	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R61	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R62	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R66, 67	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R68	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R70	VRT0145	THERMISTOR	1	
R71, 72	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2	
R73	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R126	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R140	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R144	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R183	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R189	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R195	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R196, 97	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2	
R205, 06	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R222	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R227	ERJ3GEYJ270	M. RESISTOR CH 1/16W 27	1	
R232	VRE0071E561	M. RESISTOR CH 1/16W 560	1	
R233	VRE0071E122	M. RESISTOR CH 1/16W 1.2K	1	
R234	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R235	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R236	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R237	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R238	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R239	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R240	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R241	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R242	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
R243	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R244	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R245	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1	
R246	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R249	VRE0071E512	M. RESISTOR CH 1/16W 5.1K	1	
R250	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R251	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R253	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R290	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R291	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R292	VRE0071E183	M. RESISTOR CH 1/16W 18K	1	
R293	VRE0071E123	M. RESISTOR CH 1/16W 12K	1	
R294	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R301	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R506	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R507-09	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3	
R512	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R513, 14	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R515, 16	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R519, 20	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R521	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R522, 23	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R524-26	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	3	
R528	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R530, 31	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R533-40	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	8	
R541, 42	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R544	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R546, 47	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R1001-08	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8	
R1009	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R1011	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3001	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3003	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3004	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R3005	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3006	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R3007	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3008	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3009	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3011	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3100, 01	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R3102	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R3103	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R3104	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R3105	ERJ6GEYJ5R6	M. RESISTOR CH 1/10W 5.6	1	
R3106	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3107	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R3108, 09	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R3110	ERJ6GEYG270	M. RESISTOR CH 1/10W 27	1	
R3111	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3112	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R3114	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R3115	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R3116	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R3117	ERJ6GEYJ5R6	M. RESISTOR CH 1/10W 5.6	1	
R3118	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3119	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3120, 21	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R3447	ERJ3GEYJ583	M. RESISTOR CH 1/16W 56K	1	
R3122	ERJ3GEYJ222	M. RESISTOR CH 1/10W 27	1		R3448	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3123	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1		R3449, 50	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R3124	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R3500	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R3200-02	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R3501	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R3203-06	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	4		R3503	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R3207, 08	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	2		R3504	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R3212, 13	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R3505	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3218	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R3506	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3219	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3508, 09	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R3220	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R3510	ERJ3GEYJ582	M. RESISTOR CH 1/16W 5.6K	1	
R3221	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R3511	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R3222, 23	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R3512	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
R3224	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R3513	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R3225, 26	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R3514	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R3228	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R3515	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R3229	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R3516	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R3230	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R3517	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3231	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R3518	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R3232-34	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R3519	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3237	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R3520	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R3238, 39	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	2		R3521-23	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3	
R3240	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R3524	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3241	ERJ14YJ270H	M. RESISTOR CH 1/4W 27	1		R3526	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R3242-44	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R3527, 28	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R3245-48	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	4		R3529	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R3249, 50	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	2		R3530	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R3251, 52	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R3531, 32	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R3253	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R3533	ERJ3GEYJ221	M. RESISTOR CH 1/10W 220	1	
R3262, 63	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R3534	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R3265	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R3535	ERJ3GEYJ582	M. RESISTOR CH 1/16W 5.8K	1	
R3266	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R3536	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R3268	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R3537	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R3269-71	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R3538	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R3274	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1		R3540	ERJ3GEYJ564	M. RESISTOR CH 1/16W 560K	1	
R3275, 76	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	2		R3541	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R3277	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R3542	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3278	ERJ14YJ270H	M. RESISTOR CH 1/4W 27	1		R4001	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R3280	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R4002, 03	ERJ14YJ682	M. RESISTOR CH 1/4W 6.8K	2	
R3287, 88	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	2		R4004	ERJ3GEYJ392	M. RESISTOR CH 1/10W 3.9K	1	
R3289, 90	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R4008, 07	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R3291	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R4008, 09	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R3292	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R4010	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3301	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R4011, 12	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R3309, 10	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	2		R4014, 15	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	2	
R3318	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R4017, 18	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R3319	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R4019, 20	ERJ3GEYJ334	M. RESISTOR CH 1/16W 330K	2	
R3320	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1		R4021, 22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R3321, 22	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R4023-26	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	4	
R3323	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1		R4028-30	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	3	
R3324, 25	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R4031	VRE0034E433	M. RESISTOR CH 1/10W 43K	1	
R3326, 27	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2		R4032	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3328, 29	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2		R4033, 34	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R3330	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R4035	ERJ14YJ682	M. RESISTOR CH 1/4W 6.8K	1	
R3331	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		R4036	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3332-34	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	3		R4037	ERJ14YJ682	M. RESISTOR CH 1/4W 6.8K	1	
R3335, 36	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2		R4038	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R3337	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R4039	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3338	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R4040, 41	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R3339	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R4042-44	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3	
R3340	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R4045-47	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	3	
R3341	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R4048, 49	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R3343	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R4050	ERJ3GEYJ100	M. RESISTOR CH 1/10W 10	1	
R3416	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R4101, 02	ERJ14YJ682	M. RESISTOR CH 1/4W 6.8K	2	
R3418	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R4103, 04	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	2	
R3420	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R4105	ERJ3GEYJ911	M. RESISTOR CH 1/16W 910	1	
R3423-25	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3		R4106	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3426, 27	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2		R4107	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R3428, 29	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R4108	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R3431, 32	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2		R4109	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R3438	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R4110	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3439	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R4111, 12	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R3441-43	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R4113	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R3444	ERJ3GEYJ583	M. RESISTOR CH 1/16W 58K	1		R4114	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R3445, 46	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R4115, 16	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4117, 18	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	2	
R4119-22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4	
R4123	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R4124	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4125	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R4126	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4127	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4128	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R4129	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4130	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R4131	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R4132	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R4133	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R4134	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R4135	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R4136	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4137	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4138	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R4139	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4140	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R4141, 42	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R4143	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4144	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R4145	ERJ3GEYJ155	M. RESISTOR CH 1/16W 1.5M	1	
R4146	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4201, 02	ERJ14YJ682	M. RESISTOR CH 1/4W 6.8K	2	
R4203, 04	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	2	
R4205	ERJ3GEYJ911	M. RESISTOR CH 1/16W 910	1	
R4206	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4207	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4208	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R4209	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R4210	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4211, 12	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R4213	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R4214	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R4215, 16	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R4217, 18	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	2	
R4219-22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4	
R4223	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R4224	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4225	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R4226	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4227	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4228	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R4229	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4230	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R4231	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R4232	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R4233	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R4234	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R4235	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R4236	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R4237	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4238	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R4239	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R4240	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R4241, 42	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R4243	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R4244	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R4245	ERJ3GEYJ155	M. RESISTOR CH 1/16W 1.5M	1	
R4246	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R6001	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R6002-04	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	3	
R6005	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	
R6006-10	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	5	
R6011	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R6012	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R6013	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6014	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R6015	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R6016	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R6017	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6018	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R6019	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6020	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	-1	
R6021	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R6022	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R6023	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6024	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R6025	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6026	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R6027	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6029, 30	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	2	
R6031-37	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	7	
R6038	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R6039	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R6040	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	1	
R6041, 42	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R6043	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R6044-52	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	9	
R6053-64	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	12	
R6065	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R6067	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R6068-71	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	4	
R6072, 73	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R6074-76	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	3	
R6077-80	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	4	
R6081-85	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	5	
R6087, 88	ERJ3GEYJ000	M. RESISTOR CH 1/16W 0	2	
R6089-92	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	4	
R6093-95	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	3	
R6096-98	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3	
R6099	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
SW4101	VSS0367-06B	SWITCH	1	
SW4102	VSS0367-04B	SWITCH	1	
SW4201	VSS0367-06B	SWITCH	1	
SW6001	VSS0342	SWITCH	1	
TG6	EYF6CU	TEST POINT	1	
TG3001	EYF6CU	TEST POINT	1	
TG3300	EYF6CU	TEST POINT	1	
TG3500	EYF6CU	TEST POINT	1	
TG4001	EYF6CU	TEST POINT	1	
TH3500	VRT0139K103	THERMISTOR	1	
TP1, P2	EYF6CU	TEST POINT	2	
TP7-12	EYF6CU	TEST POINT	6	
TP501, 02	EYF6CU	TEST POINT	2	
TP3100, 01	EYF6CU	TEST POINT	2	
TP3200-03	EYF6CU	TEST POINT	4	
TP3300	EYF6CU	TEST POINT	1	
TP3500-08	EYF6CU	TEST POINT	9	
TP4001	EYF6CU	TEST POINT	1	
TP4004	EYF6CU	TEST POINT	1	
TP6001-04	EYF6CU	TEST POINT	4	
VC8001	VCV0049	TRIMMER	1	
VR9	EVW7JGA00B14	V. RESISTOR 10K	1	
VR3200	EVW7JGA00B13	V. RESISTOR 1K	1	
VR4003	EVW7JGA00B14	V. RESISTOR 10K	1	
VR4101	EVW7JGA00B14	V. RESISTOR 10K	1	
VR4201	EVW7JGA00B14	V. RESISTOR 10K	1	
X1	VSX0645	CRYSTAL OSCILLATOR	1	
X2	VSX0886	CRYSTAL OSCILLATOR	1	
X501	VSX0637	CRYSTAL OSCILLATOR	1	
X6002	VSX0883	CRYSTAL OSCILLATOR	1	
E10	VEP86258A	TEST PLUG	1 (RTL)	
C6601	ECA0JUM102	E. CAPACITOR 6.3V 1000U	1	
D6601	MA142WK	DIODE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P8601	VJS3828A020	CONNECTOR (FEMALE)	1		C522	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1	
P8602	VJS3791B026	CONNECTOR (FEMALE)	1		C523	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1	
P8603	VJP1923T	CONNECTOR (MALE)	1		C524	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1	
P8604	VJP3969A009	CONNECTOR (MALE)	1		C525-27	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	3	
P8605	VJP1597T	CONNECTOR (MALE) 4P	1		C528	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1	
P8606	VJS2889A026	CONNECTOR (FEMALE)	1		C529	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1	
P8607	VJS2889A014	CONNECTOR (FEMALE)	1		C530-45	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	16	
■ E11	VEP00Y55A	EVR FLEXIBLE P.C. BOARD	1 (RTL)		C546	ECUX1A224KBV	C. CAPACITOR CH 10V 0.22U	1	
P3	VJS3961	CONNECTOR (FEMALE)	1		C547	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1	
■ E12	VEP22251A	SENSOR P.C. BOARD	1 (RTL)		C548, 49	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	2	
C102	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		C550-58	ECUX1H103ZPV	C. CAPACITOR CH 50V 0.01U	9	
C103	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C559	ECSTQJX476Z	T. CAPACITOR CH6.3V 47U	1	
C104	ECSTQJX476Z	T. CAPACITOR CH6.3V 47U	1		C560	ECSTQJY475Z	T. CAPACITOR CH6.3V 4.7U	1	
C105	ECUM1C224ZPV	C. CAPACITOR CH 16V 0.22U	1		C561	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1	
C107	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		C562	ECUX1H060GCV	C. CAPACITOR CH 50V 6P	1	
C109	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		C563	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	1	
C111	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		C564	ECUX1H120JGV	C. CAPACITOR CH 50V 12P	1	
C112	ECUX1H130GCV	C. CAPACITOR CH 50V 13U	1		C565	ECUX1H060GCV	C. CAPACITOR CH 50V 6P	1	
C113	ECUX1H180GCV	C. CAPACITOR CH 50V 16U	1		C566	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	1	
C114	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	1		C567	ECUX1H120JGV	C. CAPACITOR CH 50V 12P	1	
C115	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1		C568	ECUX1H060GCV	C. CAPACITOR CH 50V 6P	1	
C116	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		C569	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	1	
C117	ECSTQJX476Z	T. CAPACITOR CH6.3V 47U	1		C570	ECUX1H120JGV	C. CAPACITOR CH 50V 12P	1	
C118	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1		C572, 73	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	2	
C119	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C585	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1	
C120	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		C586	ECUX1A105ZPV	C. CAPACITOR CH 10V 1U	1	
C123	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		C589	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1	
C124	ECUX1H270JGV	C. CAPACITOR CH 50V 27P	1		D101	MA121	DIODE	1	
C125, 26	ECUX1H220JGV	C. CAPACITOR CH 50V 22P	2		D102-05	1SS355	DIODE	4	
C127, 28	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	2		D106	MA728	DIODE	1	
C129	ECST1DY475Z	T. CAPACITOR CH 20V 4.7U	1		D107	1SS355	DIODE	1	
C130	ECST1VX155Z	T. CAPACITOR CH 35V 1.5U	1		D109	1SS355	DIODE	1	
C131	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		D502-05	1SS355	DIODE	4	
C132	ECST1CY685Z	T. CAPACITOR CH 16V 6.8U	1		FL501-03	VLF1173	FILTER	3	
C133	ECSTQJY156Z	T. CAPACITOR CH6.3V 15U	1		IC101	NJM2902V	IC	1	
C134	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		IC102	TC7SHU04FU	IC	1	
C135	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		IC103	AN2018S	IC	1	
C136	ECUX1C104KBV	C. CAPACITOR CH 16V 0.1U	1		IC104	TC7SH08FU	IC	1	
C137	ECSTQJY156Z	T. CAPACITOR CH6.3V 15U	1		IC105	AN2018S	IC	1	
C138	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	1		IC106	MN5236	IC	1	
C139	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		IC107, 08	MB87882PFV	IC	2	
C140	ECUM1C224KBN	C. CAPACITOR CH 16V 0.22U	1		IC109	T74VHC04FS	IC	1	
C142	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		IC110	TC7SH04FU	IC	1	
C143-45	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	3		IC111	TC7SH08FU	IC	1	
C146	ECSTQJD157Z	E. CAPACITOR CH6.3V 150U	1		IC112	TC7SH04FU	IC	1	
C147	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		IC113	AN2018S	IC	1	
C148	ECSTQJD157Z	E. CAPACITOR CH6.3V 150U	1		IC114	TC7SH32FU	IC	1	
C149	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		IC504	UPC2391GB	IC	1	
C150	ECSTQJD157Z	E. CAPACITOR CH6.3V 150U	1		IC505	TA75W01FU	IC	1	
C151	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		IC506	AK6480HF	IC	1	
C152	ECUX1H270JGV	C. CAPACITOR CH 50V 27P	1		IC507	MB88344PFV	IC	1	
C153	ECST1CY685Z	T. CAPACITOR CH 16V 6.8U	1		IC508	RN5RG46AA	IC	1	
C154	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		L102	ELJPC100KB	COIL 10UH	1	
C155	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		L103	ELJPC6R8KF	COIL 6.8UH	1	
C158	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		L104, 05	VLF1144A102	FILTER	2	
C159	ECUX1H270JGV	C. CAPACITOR CH 50V 27P	1		L106-08	ELJPC6R8KF	COIL 6.8UH	3	
C161	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	1		L109-11	VLQ0319K101	COIL 100UH	3	
C162	ECUX1H101JGV	C. CAPACITOR CH 50V 100P	1		L112	ELJPC6R8KF	COIL 6.8UH	1	
C163	ECUX1H223ZPV	C. CAPACITOR CH 50V 0.022U	1		L113	VLP0154	COIL	1	
C500	ECSTQJX476Z	T. CAPACITOR CH6.3V 47U	1		L114	VLQ0319K330	COIL	1	
C501	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		L501	ELJPC150KF	COIL 15UH	1	
C504	ECST1AY106Z	T. CAPACITOR CH 4V 22U	1		L507	VLQ0319M6R8	COIL 6.8UH	1	
C506	ECSTQY226Z	T. CAPACITOR CH 4V 22U	1		L508-10	ELJFC220JB	COIL 22UH	3	
C510-12	ECUX1H100GCV	C. CAPACITOR CH 50V 10P	3		L512	ELJPC150KF	COIL 15UH	1	
C513-15	ECUX1H390JGV	C. CAPACITOR CH 50V 39P	3		L513	VLQ0319M6R8	COIL 6.8UH	1	
C516-20	ECUX1C104ZPV	C. CAPACITOR CH 16V 0.1U	5		PP101	VJP2962A026	CONNECTOR (MALE)	1	
C521	ECSTQY226Z	T. CAPACITOR CH 4V 22U	1		PP501	VJP3681B044	CONNECTOR (MALE)	1	
					Q102	2SC3930	TRANSISTOR	1	
					Q103	2SD2216	TRANSISTOR	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C345	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1		L308	ELJPC6R8KF	COIL 6.8UH	1	
C346	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		L309	VLQ0319M6R8	COIL 6.8UH	1	
C347	ECSTOGY226Z	T. CAPACITOR CH 4V 22U	1		L310-12	VLP0154	COIL	3	
C348	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		L313-15	ELJPC6R8KF	COIL 6.8UH	3	
C349	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	1		L317-19	VLP0154	COIL	3	
C350	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		L320	ELJPC6R8KF	COIL 6.8UH	1	
C351	ECUX1H223ZV	C. CAPACITOR CH 50V 0.022U	1		L321, 22	VLQ0319K101	COIL 100UH	2	
C352	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	1		L323	ELJNA1R5JF	COIL 1.5UH	1	
C353	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		L324-27	VLP0154	COIL	4	
C354	ECUX1H060CCV	C. CAPACITOR CH 50V 6P	1		L330	VLQ0319M6R8	COIL 6.8UH	1	
C355-57	ECUX1H223ZV	C. CAPACITOR CH 50V 0.022U	3		L701	ELJPC6R8KF	COIL 6.8UH	1	
C358	ECSTOJX476Z	T. CAPACITOR CH6.3V 47U	1		L702	ELJPC220KF	COIL 22UH	1	
C359	ECUX1H080CCV	C. CAPACITOR CH 50V 8P	1		L703, 04	ELJPC6R8KF	COIL 6.8UH	2	
C361	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		L705	VLQ0319F150	COIL	1	
C701	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		L706	ELJPC150KF	COIL 15UH	1	
C702	ECSTOJX476Z	T. CAPACITOR CH6.3V 47U	1		L707	VLQ0319K331	COIL 330UH	1	
C703	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1						
C704	ECSTOJY106Z	T. CAPACITOR CH6.3V 10U	1		PP701	VJP3644B034	CONNECTOR (MALE)	1	
C709	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1						
C711	ECST1AY106Z	T. CAPACITOR CH 10V 10U	1		PS301	VJS3683A044	CONNECTOR (FEMALE)	1	
C712	ECSTOJY106Z	T. CAPACITOR CH6.3V 10U	1						
C713	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		Q704	XP4501	TRANSISTOR-RESISTOR	1	
C714, 15	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	2						
C716	ECSTOJY106Z	T. CAPACITOR CH6.3V 10U	1		QR701	XP1211	TRANSISTOR-RESISTOR	1	
C717	ECUM1C224ZV	C. CAPACITOR CH 16V 0.22U	1						
C718	ECEV1CA470P	E. CAPACITOR CH 16V 47U	1		R301, 02	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
C719	ECUX1H103ZV	C. CAPACITOR CH 50V 0.01U	1		R303	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
C720	ECUM1A105KBN	C. CAPACITOR CH 10V 1U	1		R304	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
C721	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1		R305-07	ERJ2GEJ333	M. RESISTOR CH 2W 33K	3	
C724, 25	ECUX1H103ZV	C. CAPACITOR CH 50V 0.01U	2		R308	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
C726	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		R309, 10	ERJ2GEJ333	M. RESISTOR CH 2W 33K	2	
C727	ECSTOJY106Z	T. CAPACITOR CH6.3V 10U	1		R311	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
C728	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		R312	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
C729	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		R313, 14	ERJ2GEOR00	M. RESISTOR CH 2W 0	2	
C730	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		R315-17	ERJ2GEJ382	M. RESISTOR CH 2W 3.9K	3	
C731	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		R320	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
C732	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		R322, 23	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
C733	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	1		R328	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
C734, 35	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	2		R330	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
C736	ECUX1H223ZV	C. CAPACITOR CH 50V 0.022U	1		R331, 32	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2	
C741	ECUX1C104ZV	C. CAPACITOR CH 16V 0.1U	1		R333	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
C742	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		R334	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
					R335	ERJ2GEJ123	M. RESISTOR CH 2W 12K	1	
D301	1SS355	DIODE	1		R336	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
					R337	ERJ2GEJ221	M. RESISTOR CH 2W 220	1	
FP301	VJS3320B026	CONNECTOR (FEMALE)	1		R338	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
FP302	VJS3320B040	CONNECTOR (FEMALE)	1		R339, 40	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
FP303	VJS3320B020	CONNECTOR (FEMALE)	1		R341, 42	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2	
FP304	VJS3320B014	CONNECTOR (FEMALE)	1		R345	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
FP305	VJS3452A013	CONNECTOR (FEMALE)	1		R354, 55	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
FP701	VJS2960A024	CONNECTOR (FEMALE)	1		R356, 57	ERJ2GEJ102	M. RESISTOR CH 2W 1K	2	
					R358	ERJ2GEJ101	M. RESISTOR CH 2W 100	1	
IC301	X061AN2712M	IC	1		R371-73	ERJ2GEJ331	M. RESISTOR CH 2W 330	3	
IC302	MN1020707M8J	IC	1		R378	ERJ2GEJ331	M. RESISTOR CH 2W 330	1	
IC303	UPC2384GA	IC	1		R379-83	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	5	
IC304	MN67344A1	IC	1		R384, 85	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
IC305	MN67343A2	IC	1		R386	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
IC306, 07	MSM548333	IC	2		R387, 88	ERJ2GEJ101	M. RESISTOR CH 2W 100	2	
IC308	TA75W01FU	IC	1		R701	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	1	
IC309-11	MN65761	IC	3		R702	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1	
IC312	LZ9GA11	IC	1		R703	ERJ2GEJ823	M. RESISTOR CH 2W 82K	1	
IC313	T07SH08FU	IC	1		R704, 05	ERJ3GEY3303	M. RESISTOR CH 1/16W 30K	2	
IC316	X062AP2502M	IC	1		R706, 07	ERJ3GEYJ3R3	M. RESISTOR CH 1/16W 3.3	2	
IC317	TC4S584F	IC	1		R708	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
IC701	TC4S584F	IC	1		R709	ERJ3GEY123	M. RESISTOR CH 1/16W 12K	1	
IC702	LB1830M	IC	1		R710	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
IC703	TB8512AF	IC	1		R711	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
IC704	TA75W01FU	IC	1		R712	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
IC705	TC9074F	IC	1		R713	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
IC706, 07	NJM2902V	IC	2		R714	ERJ3GEY0682	M. RESISTOR CH 1/16W 6.8K	1	
IC708	MN1862421M8K	IC	1		R715	ERJ2GEJ104	M. RESISTOR CH 2W 100K	1	
					R716	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
L301	VLQ0319M6R8	COIL 6.8UH	1		R717	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
L303-05	ELJPC6R8KF	COIL 6.8UH	3		R718	ERJ2GEJ225	M. RESISTOR CH 2W 2.2M	1	
L306, 07	VLQ0319K330	COIL	2		R719	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R721	ERJ2GEJ222	M. RESISTOR CH 2W 2.2K	1	
R722	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R723	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R724	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R725	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R726	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R727	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R728	ERJ2GEJ683	M. RESISTOR CH 2W 68K	1	
R729	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R730	ERJ2GEJ682	M. RESISTOR CH 2W 6.8K	1	
R731	ERJ2GEJ683	M. RESISTOR CH 2W 68K	1	
R732	ERJ2GEJ563	M. RESISTOR CH 2W 56K	1	
R733	ERJ2GEJ224	M. RESISTOR CH 2W 220K	1	
R734, 35	ERJ2GEJ123	M. RESISTOR CH 2W 12K	2	
R736	ERJ2GEJ474	M. RESISTOR CH 2W 470K	1	
R737	ERJ2GEJ394	M. RESISTOR CH 2W 390K	1	
R739	ERJ2GEJ183	M. RESISTOR CH 2W 18K	1	
R740	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R741	ERJ2GEJ563	M. RESISTOR CH 2W 56K	1	
R742	ERJ2GEJ393	M. RESISTOR CH 2W 39K	1	
R743	ERJ2GEJ822	M. RESISTOR CH 2W 8.2K	1	
R744	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R745	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R746	ERJ2GEJ882	M. RESISTOR CH 2W 8.8K	1	
R747, 48	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R749	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R750	ERJ3GEYJ303	M. RESISTOR CH 1/16W 30K	1	
R751	ERJ2GEJ154	M. RESISTOR CH 2W 150K	1	
R752	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R753	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R754	ERJ2GEJ152	M. RESISTOR CH 2W 1.5K	1	
R756	ERJ2GEJ333	M. RESISTOR CH 2W 33K	1	
R757	ERJ2GEJ223	M. RESISTOR CH 2W 22K	1	
R758	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R759, 60	ERJ2GEJ333	M. RESISTOR CH 2W 33K	2	
R761	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R763	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R765-68	ERJ2GEJ102	M. RESISTOR CH 2W 1K	4	
R769	ERJ2GEJ473	M. RESISTOR CH 2W 47K	1	
R770-79	ERJ2GEJ102	M. RESISTOR CH 2W 1K	10	
R780	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R781, 82	ERJ2GEJ473	M. RESISTOR CH 2W 47K	2	
R783, 84	ERJ2GEJ103	M. RESISTOR CH 2W 10K	2	
R785	ERJ2GEJ472	M. RESISTOR CH 2W 4.7K	1	
R786, 87	ERJ2GEJ105	M. RESISTOR CH 2W 1M	2	
R788	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R789	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
R790	ERJ2GEJ153	M. RESISTOR CH 2W 15K	1	
R792	ERJ2GEJ103	M. RESISTOR CH 2W 10K	1	
R793-99	ERJ2GEOR00	M. RESISTOR CH 2W 0	7	
R801-04	ERJ2GEOR00	M. RESISTOR CH 2W 0	4	
R805	ERJ2GEJ102	M. RESISTOR CH 2W 1K	1	
R806	ERJ2GEJ332	M. RESISTOR CH 2W 3.3K	1	
RA301-03	EXB24V103J	COMBI. R-R	10K 3	
RA304-11	EXB24V101J	COMBI. R-R	100 8	
RA312	EXB24V103J	COMBI. R-R	10K 1	
RA313, 14	EXB24V331J	COMBI. R-R	330 2	
RA315, 16	EXB24V101J	COMBI. R-R	100 2	
RA317	EXB24V103J	COMBI. R-R	10K 1	
RA318-23	EXB24V102J	COMBI. R-R	1K 6	
RA324, 25	EXB24V103J	COMBI. R-R	10K 2	
RA333-35	EXB24V101J	COMBI. R-R	100 3	
RA336, 37	EXB24V103J	COMBI. R-R	10K 2	
RA338	EXB24V101J	COMBI. R-R	100 1	
RA339	EXB24V103J	COMBI. R-R	10K 1	
RA340, 41	EXB24V152J	RELAY	2	
RA342-45	EXB24V101J	COMBI. R-R	100 4	
TH701	VRT0035K152	THERMISTOR	1	
W302	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
W305	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
W307	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
W315	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
W327	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
W705	ERJ2GEOR00	M. RESISTOR CH 2W 0	1	
X301	EFOS1005E5	CERAMIC RESONATOR	1	
X701	EFOS1205E5	CERAMIC RESONATOR	1	
E14	VEP80A32A	ATW SENSOR P.C. BOARD	1 (RTL)	
C1	ECSTOJY106Z	T. CAPACITOR CH6.3V 10U	1	
C2	ECSTOJY475Z	T. CAPACITOR CH6.3V 4.7U	1	
C3	ECUM1C104KBN	C. CAPACITOR CH 16V 0.1U	1	
IC1	M52944FP	IC	1	
L1	VLQ0464	COIL	1	
P1	VJS3452A014	CONNECTOR (FEMALE)	1	
Q1	UN2212	TRANSISTOR-RESISTOR	1	
R1	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
		MISCELLANEOUS		
	VGQ3310	IR PLATE HOLDER	1	
	VGQ3306	IR PLATE SPACER	1	
	VDL0397	IR CUT FILTER	1	
E15	VEP00U25B	VTR START P.C. BOARD	1 (RTL)	
SW1	EVQGSB04B	SWITCH	1	
		MISCELLANEOUS		
	VST0321	TOGGLE SW	1	
E16	VEP86143B	OPERATE P.C. BOARD	1 (RTL)	
D6001-03	BR1102W	DIODE	3	
P501	VJP3125B010	CONNECTOR (MALE)	1	
SW6001-05	EVQPHB03T	SWITCH	5	
E17	VEP80A15A	TOGGLE SW P.C. BOARD	1 (RTL)	
J1	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
P9300	VJP1610T	CONNECTOR (MALE)	1	
SW9300, 01	VST0188	SWITCH	2	
SW9302	VST0187	SWITCH	1	
SW9303	VST0320	SWITCH	1	
		MISCELLANEOUS		
	VMP4267	P.C.B. HOLDER ANGLE	1	
E18	VEP80A16A	POWER SW P.C. BOARD	1 (RTL)	
P9400	VJP1607T	CONNECTOR (MALE)	1	
SW9400	VST0289	TOGGLE SWITCH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E19	VEP80A17A	MODE CHECK P.C. BOARD	1	(RTL)	QR6501, 02	UN5213	TRANSISTOR-RESISTOR	2	
					QR6503	UN5211	TRANSISTOR-RESISTOR	1	
P9401	VJP1607T	CONNECTOR (MALE)	1		QR6504	UN5213	TRANSISTOR-RESISTOR	1	
SW9401	EVQGS205K	SWITCH	1		QR6505	UN5113	TRANSISTOR-RESISTOR	1	
					QR6508	UN5113	TRANSISTOR-RESISTOR	1	
					QR6509	UN5213	TRANSISTOR-RESISTOR	1	
■ E20	VEP80A18A	MONITOR VR P.C. BOARD	1	(RTL)	R6501-04	ERJ6EYG104	M. RESISTOR CH 1/10W 100K	4	
					R6505	ERJ6EYF561	M. RESISTOR CH 1/10W 560	1	
					R6506-08	ERJ6EYG394	M. RESISTOR CH 1/10W 390K	3	
VR9200	VRV0080	V. RESISTOR	1		R6509-16	ERJ6EYG102	M. RESISTOR CH 1/10W 1K	8	
					R6517-24	ERJ6EYG823	M. RESISTOR CH 1/10W 82K	8	
					R6525	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
■ E21	VEP80A19A	BACK UP P.C. BOARD	1	(RTL)	R6526	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
					R6527	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
		MISCELLANEOUS			R6528	VRE0034E882	M. RESISTOR CH 1/10W 6.8K	1	
					R6529	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
	BDR20H4	BATTERY HOLDER	1		R6530	VRE0034E104	M. RESISTOR CH 1/10W 100K	1	
					R6531	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
■ E22	VEP80A21A	FLEX RING P.C. BOARD	1	(RTL)	R6532, 33	VRE0034E563	M. RESISTOR CH 1/10W 56K	2	
					R6534	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
					R6535	ERJ6EYG155	M. RESISTOR CH 1/10W 1.5M	1	
SW9100	EVQGS205K	SWITCH	1		R6536	ERJ6EYG104	M. RESISTOR CH 1/10W 100K	1	
					R6538	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
					R6540	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
■ E23	VEP86264A	R SIDE P.C. BOARD	1	(RTL)	R6542	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
					R6543	ERJ6EYG102	M. RESISTOR CH 1/10W 1K	1	
					R6544	ERJ6EYG682	M. RESISTOR CH 1/10W 6.8K	1	
					R6545-48	ERJ14YJ100	M. RESISTOR CH 1/4W 10	4	
					R6549	ERJ6EYF822	M. RESISTOR CH 1/10W 8.2K	1	
06501, 02	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	2		R6550	ERJ6EYG103	M. RESISTOR CH 1/10W 10K	1	
06503, 04	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	2		R6551	ERJ6EYG223	M. RESISTOR CH 1/10W 22K	1	
06505	ECEAOJKS470	E. CAPACITOR 6.3V 47U	1		R6552	ERJ6EYG102	M. RESISTOR CH 1/10W 1K	1	
06506	ECEAOJKS331	E. CAPACITOR 6.3V 330U	1		R6553	ERJ6EYF473	M. RESISTOR CH 1/10W 47K	1	
06515	ECEA1EKS220	E. CAPACITOR 25V 22U	1		R6554	ERJ6EYF124	M. RESISTOR CH 1/10W 120K	1	
06516	ECEAOJKS470	E. CAPACITOR 6.3V 47U	1		R6555	ERJ6EYG104	M. RESISTOR CH 1/10W 100K	1	
06517	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		R6556	ERJ6EYF124	M. RESISTOR CH 1/10W 120K	1	
06518	ECUM1C105KBM	C. CAPACITOR CH 16V 1U	1		R6557	ERJ6EYG104	M. RESISTOR CH 1/10W 100K	1	
06519	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		R6558, 59	ERJ6EYG103	M. RESISTOR CH 1/10W 10K	2	
06520	ECEAOJKS331	E. CAPACITOR 6.3V 330U	1		SW6501-04	EVQGSB04B	SWITCH	4	
06521	ECEA1CSN4R7	E. CAPACITOR 16V 4.7U	1		SW6505-07	VSS0186	SWITCH	3	
06522	ECEA1EKS3R3	E. CAPACITOR 25V 3.3U	1						
06524	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		TP6501-04	EYF6CU	TEST POINT	4	
06525, 26	ECEAOJKS330	E. CAPACITOR 6.3V 33U	2						
06527	ECEA1CKS100	E. CAPACITOR 16V 10U	1		VR6501, 02	VRV0080	V. RESISTOR	2	
06528	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1						
06529	ECEAOJKS470	E. CAPACITOR 6.3V 47U	1		W53-83	ERJ6EYOR00	M. RESISTOR CH 1/10W 0	11	
06530	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1						
06531	ECEA1CKS100	E. CAPACITOR 16V 10U	1		X6501	VSX0094C	CRYSTAL OSCILLATOR	1	
06532-34	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3		X6502	VSX0140	CRYSTAL OSCILLATOR	1	
D6501-06	MA142K	DIODE	6						
D6508	MA142K	DIODE	1						
D6510-13	MA142K	DIODE	4		■ E24	VEP27086A	H-DEF P.C. BOARD	1	(RTL)
D6514	HZ16-1L	DIODE	1						
D6515	MA704	DIODE	1						
D6516	MA142K	DIODE	1		07401, 02	ECEA1AGE221	E. CAPACITOR 10V 220U	2	
D6518-22	MA142K	DIODE	5		07403	VCF0066J123	P. CAPACITOR 0.012U	1	
					07404	VCF0066J332	P. CAPACITOR 3300P	1	
IC6501	UPD75316BE83	IC	1		07407	ECEA1HGE101	E. CAPACITOR 50V 100U	1	
IC6502	S8420BF	IC	1		07408, 09	ECKD3A472MEH	C. CAPACITOR 1KV 4700P	2	
IC6503	NJU7112AM	IC	1		07410	VCF0066J223	P. CAPACITOR 0.022U	1	
IC6504	S81350HG	IC	1		07414	VCF0066J182	P. CAPACITOR 1800P	1	
IC6505	MC14013BF	IC	1		07416	VCEAOJAP330	C. CAPACITOR 6.3V 33P	1	
IC6506	MC14001BF	IC	1		07417	ECEA1AGE221	E. CAPACITOR 10V 220U	1	
IC6507	MC14011BF	IC	1						
IC6508, 09	MC14538BF	IC	2		D7401	EC11FS2	DIODE	1	
					D7402	MA142K	DIODE	1	
P6501	VJP1614T	CONNECTOR (MALE)	1		D7403	MA141K	DIODE	1	
P6502	VJP1607T	CONNECTOR (MALE)	1		D7404	EC11FS2	DIODE	1	
P6503	VJP1614T	CONNECTOR (MALE)	1		D7405	MA141K	DIODE	1	
P6504	VJP1610T	CONNECTOR (MALE)	1						
					L7402	ELH5L220	COIL 22UH	1	
Q6501, 02	2SD968-R	TRANSISTOR	2		L7403	VLGEL06F220J	COIL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L7404	VLQ0820	COIL	1	
P7007	VJP2284	CONNECTOR (MALE)	1	
P7011	VJP1232T	CONNECTOR (MALE) 5P	1	
P7013	VJP1595T	CONNECTOR (MALE) 2P	1	
Q7402, 03	2SK1954	TRANSISTOR	2	
R7405	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R7406	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R7408	ERDS2TJ222	C. RESISTOR 1/4W 2.2K	1	
R7409-11	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	3	
R7412	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R7413, 14	ERJ3GEYK155	M. RESISTOR CH 1/16W 1.5M	2	
R7417	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R7418	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R7419	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R7420	ERJ3GEYJ910	M. RESISTOR CH 1/16W 91	1	
Δ T7401	ETF18L34A	TRANSFORMER	1	
TP7401	EYF6CU	TEST POINT	1	
TP6	EYF6CU	TEST POINT	1	
VR7402	EVMLRGA00B16	V. RESISTOR 10M	1	
VR7403	EVML3GA00B55	V. RESISTOR 500K	1	
\blacksquare E25	VEP27087A	V-DEF P.C. BOARD	1 (RTL)	
C7001	ECA1EFQ121	E. CAPACITOR 25V 120U	1	
C7002	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
C7003	ECA0JKF121	E. CAPACITOR 6.3V 120U	1	
C7005	EGG01BA4R7	C. CAPACITOR 12V 4.7P	1	
C7007	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1	
C7008	ECUM1G105ZFN	C. CAPACITOR CH 16V 1U	1	
C7010	EGST10Y105Z	T. CAPACITOR CH 16V 1U	1	
C7011	ECUX1E223KBV	C. CAPACITOR CH 25V 0.022U	1	
C7012	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1	
C7013	ECF1VM105X	E. CAPACITOR 35V 1M	1	
C7014	EGST10X106Z	T. CAPACITOR CH 16V 10U	1	
C7015	ECUX1H682KBV	C. CAPACITOR CH 25V 0.6800P	1	
C7016	ECUM1H222JN	C. CAPACITOR CH 50V 2200P	1	
C7017	ECUM1C473KBV	C. CAPACITOR CH 16V 0.047U	1	
C7018	ECUM1G105ZFN	C. CAPACITOR CH 16V 1U	1	
C7019	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1	
C7020	EGST10Y105Z	T. CAPACITOR CH 16V 1U	1	
C7021	EGST10Y335Z	T. CAPACITOR CH 16V 3.3U	1	
C7022	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	1	
C7023	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
C7024	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1	
C7025	ECA0JKF121	E. CAPACITOR 6.3V 120U	1	
C7026, 27	EGST10X106Z	T. CAPACITOR CH 16V 10U	2	
C7028	ECUX1H272KBV	C. CAPACITOR CH 50V 2700P	1	
C7029	EGST10X106Z	T. CAPACITOR CH 16V 10U	1	
C7033	ECA1OKF560	E. CAPACITOR 16V 56U	1	
C7035	VCEA1CAP330	C. CAPACITOR 16V 33U	1	
C7036	ECA0JKF121	E. CAPACITOR 6.3V 120U	1	
C7037	ECUM1H222JN	C. CAPACITOR CH 50V 2200P	1	
C7038	VCEA1EAP150	E. CAPACITOR 25V 15U	1	
C7039	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C7040	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1	
C7041	VCF0066J223	P. CAPACITOR 0.022U	1	
C7044	ECOF1H331JC	C. CAPACITOR 50V 330P	1	
D7001	MA3180	DIODE	1	
D7002	EC10QSD412	DIODE	1	
D7003	MA141K	DIODE	1	
D7004	MA143	DIODE	1	
IC7001	TL5001CPS	IC	1	
IC7002	HA11423MP	IC	1	
IC7003	AN77L09M	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L7001	VLQ0177K151	COIL 150UH	1	
L7002-04	VLQ0319M6R8	COIL 6.8UH	3	
P7002	VJP1597T	CONNECTOR (MALE) 4P	1	
P7014	VJP1595T	CONNECTOR (MALE) 2P	1	
P7016	VJP2277	CONNECTOR (MALE)	1	
Q7001	2SD1819A-R	TRANSISTOR	1	
Q7002	2SB1219A-R	TRANSISTOR	1	
Q7003	2SJ278	TRANSISTOR	1	
Q7005	2SD1819A-R	TRANSISTOR	1	
Q7006	2SC3624	TRANSISTOR	1	
Q7007	2SD1819A-R	TRANSISTOR	1	
Q7008	2SA1411	TRANSISTOR	1	
Q7010	2SD1819A-R	TRANSISTOR	1	
Δ R7001	ERQ16NK1R0	F. RESISTOR 1	1	
R7002	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R7003	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R7004, 05	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2	
R7006	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R7007	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R7008	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R7010	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R7011	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R7013	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R7014	ERJ3GEYJ474	M. RESISTOR CH 1/16W 470K	1	
R7015	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R7016	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R7017	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R7018	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1	
R7019	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1	
R7020	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R7021	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	
R7022	VRE0034E133	M. RESISTOR CH 1/10W 13K	1	
R7023	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R7024	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R7025	RD10UMB1	DIODE	1	
R7026	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R7027	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R7028	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	
R7029	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R7030	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R7032	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R7033	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R7034	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R7035	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R7036	ERJ3GEYJ477	M. RESISTOR CH 1/16W 4.7	1	
R7037	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R7038	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R7039	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R7040	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R7041	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R7042	ERJ3GEYJ120	M. RESISTOR CH 1/16W 12	1	
R7043	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R7050	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R7051	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R7052	ERJ3GEYJ912	M. RESISTOR CH 1/16W 9.1K	1	
R7053	ERJ3GEYJ512	M. RESISTOR CH 1/16W 5.1K	1	
TP7001, 02	EYF6CU	TEST POINT	2	
TPG	EYF6CU	TEST POINT	1	
VR7001	EVW7JGA00B52	V. RESISTOR 500	1	
VR7002	EVW7JGA00B53	V. RESISTOR 5K	1	
VR7003	EVW7JGA00B52	V. RESISTOR 500	1	
VR7004	EVW7JGA00B22	V. RESISTOR 200	1	
VR7005	VRV0113B500	V. RESISTOR 50	1	
VR7006	EVW7JGA00B53	V. RESISTOR 5K	1	
\blacksquare E26	VEP27088A	CN P.C. BOARD	1 (RTL)	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C242	ECUM10473KBV	C. CAPACITOR CH 16V 0.047U	1	
C243	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C250	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C251	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C252	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C253	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C254	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C263	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C264	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C272	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C273	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1	
C274	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C275	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C276	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C279	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C280	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C301-04	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
C308, 09	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C310, 11	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	2	
C312	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C403, 04	VCK0152	C. CAPACITOR	2	
C405	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C406	ECST1CC336Z	T. CAPACITOR CH 16V 33U	1	
C407	VCK0151	C. CAPACITOR	1	
C408, 09	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C410	VCK0151	C. CAPACITOR	1	
C411-13	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C414	VCK0151	C. CAPACITOR	1	
C415-17	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
C602, 03	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	2	
C605, 06	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C608	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C609	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
C610	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C611	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C612	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C613	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C614	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C615	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C616	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C617	ECST1CC336Z	T. CAPACITOR CH 16V 33U	1	
C618	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C620	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C623	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C624	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C625	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C626	ECUX1H070DCV	C. CAPACITOR CH 50V 7P	1	
C627	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C628	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C629	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C630	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C631	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C632	ECST1CC336Z	T. CAPACITOR CH 16V 33U	1	
C633	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C635, 36	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C637	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C638	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C640	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C641	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C642	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
C643, 44	ECST1CC336Z	T. CAPACITOR CH 16V 33U	2	
C645, 46	ECUM1C105KBN	C. CAPACITOR CH 16V 1U	2	
C647	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C648, 49	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C650	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C651	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C652	ECST1CC336Z	T. CAPACITOR CH 16V 33U	1	
C653	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C654	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C655	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C656	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C657, 58	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C664	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C667	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C668	ECST1CC336Z	T. CAPACITOR CH 16V 33U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C670	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C672	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C678	ECEAOJU470	E. CAPACITOR 6.3V 47U	1	
C801-04	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
C805	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C807, 08	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C809	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C810	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C811	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C812-14	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C816	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C817, 18	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C819	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C820	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C821	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C822	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C902, 03	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C906	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C920	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C921-25	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	5	
C928	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
D201	MA142K	DIODE	1	
D203, 04	MA704	DIODE	2	
DL602	VLD0265	DELAY LINE	1	
FL2-L4	VLF0941C223	FILTER	3	
FL601	VLF1179	FILTER	1	
FL602	VLF1337	FILTER	1	
I06	XC62AP5002P	IC	1	
I08	XC62DN5002P	IC	1	
I09	XC62AP3002P	IC	1	
I094	CY7C19920ZC	IC	1	
I0201	EL4583CS	IC	1	
I0202	TC7W14FU	IC	1	
I0203	TCVHC04FS	IC	1	
I0205	TC7W125FU	IC	1	
I0206	NJM062M	IC	1	
I0213	XC62AP5002P	IC	1	
I0301	T183G26-1022	IC	1	
I0302	TC7WU04FU	IC	1	
I0305	TCVHC74FS	IC	1	
I0306	TC4W53FU	IC	1	
I0402	MN657021F	IC	1	
I0601	TC7SH08FU	IC	1	
I0602	AD817AR	IC	1	
I0603	AD826AR	IC	1	
I0604	M51272FP	IC	1	
I0608-10	TC7S08FU	IC	3	
I0611	XC62AP5002P	IC	1	
I0801	AD826AR	IC	1	
I0802	AD817AR	IC	1	
I0901	T180G41-1437	IC	1	
I0903	CG25123-5106	IC	1	
I0907	TC7S04FU	IC	1	
I0910	CY7C19920ZC	IC	1	
L101-03	VLF1315A102	FILTER	3	
L201-03	VLQ0319K101	COIL 100UH	3	
L207	VLP0155	COIL	1	
L208	VLQ0319K101	COIL 100UH	1	
L263	VLQ0319K101	COIL 100UH	1	
L264	VLQ0163J221	COIL 220UH	1	
L300-07	VLP0155	COIL	8	
L309-19	VLP0155	COIL	11	
L402	VLQ0464K6R8	COIL 6.8UH	1	
L601	VLQ0426J220	COIL 22UH	1	
L602	VLQ0163J390	COIL 39UH	1	
L603	VLQ0319K101	COIL 100UH	1	
L604	VLQ0426J820	COIL 82UH	1	
L605	VLQ0426J680	COIL 68UH	1	
L607	VLQ0319K101	COIL 100UH	1	
L608	VLQ0426J820	COIL 82UH	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L609	VL00426J680	COIL 68UH	1		R418	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
L611, 12	VL00426J470	COIL 47UH	2		R426, 27	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
L613	VL00426J180	COIL 18UH	1		R601	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
L614	VL00426J560	COIL 56UH	1		R603	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
L618	VL00319K101	COIL 100UH	1		R605	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
L803, 04	VL00319K101	COIL 100UH	2		R606	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
P1	VJS3791B036	CONNECTOR (FEMALE)	1		R607	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
P2	VJS3808E140	CONNECTOR (FEMALE)	1		R608	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
P3	VJP3125B006	CONNECTOR (MALE)	6P		R609	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
Q201	2SD1819A-R	TRANSISTOR	1		R610	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
Q601-06	2SD1819A-R	TRANSISTOR	6		R611	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
Q607	2SA1532-B	TRANSISTOR	1		R612	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
Q608	2SD1819A-R	TRANSISTOR	1		R614, 15	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
Q609	2SA1532-B	TRANSISTOR	1		R616	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
Q610-12	2SB1218A-R	TRANSISTOR	3		R619	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
Q613	2SD1819A-R	TRANSISTOR	1		R620	VRT014116250	THERMISTOR	1	
Q616	2SB1218A-R	TRANSISTOR	1		R622, 23	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
Q601	2SD1819A-R	TRANSISTOR	1		R624	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
Q802-04	2SB1218A-R	TRANSISTOR	3		R625	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
Q805	2SD1819A-R	TRANSISTOR	1		R626	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
Q806	XN4501	TRANSISTOR-RESISTOR	1		R627	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
QR301	UN5213	TRANSISTOR-RESISTOR	1		R628, 29	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2	
QR801	XP4312	TRANSISTOR-RESISTOR	1		R631	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R21	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R632	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R44, 45	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R633, 34	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R104	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R635, 36	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2	
R107-14	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8		R637	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R203	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1		R638	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R204	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1		R639, 40	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R205	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R641	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R206	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R642	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R207	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R645	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R208	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R646, 47	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R213	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R648, 49	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2	
R216	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R650	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R217	ERJ3GEYG882	M. RESISTOR CH 1/16W 8.8K	1		R651	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R220	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R652, 53	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R221	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R654	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R266	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R655	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R268	ERJ3GEYJ884	M. RESISTOR CH 1/16W 880K	1		R656	VRE0071E472	M. RESISTOR CH 1/16W 4.7K	1	
R272	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R658	VRE0071E102	M. RESISTOR CH 1/16W 1K	1	
R274	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R660	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R276	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R661	VRE0071E472	M. RESISTOR CH 1/16W 4.7K	1	
R278	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R663	VRE0071E102	M. RESISTOR CH 1/16W 1K	1	
R280	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R665	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R282	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R666	VRE0071E471	M. RESISTOR CH 1/16W 470	1	
R285	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R667	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R286	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R668, 69	VRE0071E241	M. RESISTOR CH 1/16W 240	2	
R287	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R671	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R288	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R675, 76	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R303	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R677	VRE0071E273	M. RESISTOR CH 1/16W 27K	1	
R307-09	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3		R678, 79	VRE0071E183	M. RESISTOR CH 1/16W 18K	2	
R316, 17	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R680	VRE0071E273	M. RESISTOR CH 1/16W 27K	1	
R321	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1		R681	VRE0071E221	M. RESISTOR CH 1/16W 220	1	
R323	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R682	VRE0071E102	M. RESISTOR CH 1/16W 1K	1	
R330	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R683	VRE0071E121	M. RESISTOR CH 1/16W 120	1	
R332, 33	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R684	VRE0071E221	M. RESISTOR CH 1/16W 220	1	
R335	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R685	VRE0071E332	M. RESISTOR CH 1/16W 3.3K	1	
R336	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R686	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R337	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R687, 88	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R346	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R690	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R347	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R695	VRT014182150	THERMISTOR	1	
R370	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R696, 97	VRE0071E132	M. RESISTOR CH 1/16W 1.3K	2	
R401-08	EXB24V151JX	COMBI. R-R	150		R698	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R409	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R700	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R410	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1		R701	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R411	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R703	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R412	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1		R706, 07	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R413	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R801	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R414-16	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	3		R802	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R417	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R805	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
					R806	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
					R807	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
					R808	VRE0071E152	M. RESISTOR CH 1/16W 1.5K	1	
					R810	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R811	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
R812	VRE0071E561	M. RESISTOR CH 1/16W 560	1						
R813	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1						
R814	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1						
R815	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1						
R816	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1						
R817	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1						
R818	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
R819	VRE0071E680	M. RESISTOR CH 1/16W 68	1						
R820	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1						
R821	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1						
R822	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1						
R823	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1						
R825	VRE0071E680	M. RESISTOR CH 1/16W 68	1						
R827	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1						
R828	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1						
R829	VRE0071E912	M. RESISTOR CH 1/16W 9.1K	1						
R830	VRE0071E822	M. RESISTOR CH 1/16W 8.2K	1						
R833, 34	VRE0071E102	M. RESISTOR CH 1/16W 1K	2						
R835	VRE0071E561	M. RESISTOR CH 1/16W 560	1						
R836	VRT014116250	THERMISTOR	1						
R837	VRE0071E101	M. RESISTOR CH 1/16W 100	1						
R838	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1						
R839	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
R840	VRE0071E561	M. RESISTOR CH 1/16W 560	1						
R841	VRE0071E680	M. RESISTOR CH 1/16W 68	1						
R907, 08	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2						
R909	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1						
R910	VRE0071E111	M. RESISTOR CH 1/16W 110	1						
R911	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
R917	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
R928-33	EXB24V151JX	COMBI. R-R	150	8					
R935-42	EXB24V151JX	COMBI. R-R	150	8					
R946, 47	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2						
R948, 49	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	2						
R950-52	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3						
R954	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1						
TG1	EYF6CU	TEST POINT	1						
TG801	EYF6CU	TEST POINT	1						
TP201-03	EYF6CU	TEST POINT	3						
TP301	EYF6CU	TEST POINT	1						
TP307-09	EYF6CU	TEST POINT	3						
TP401-03	EYF6CU	TEST POINT	3						
TP801-04	EYF6CU	TEST POINT	4						
VC801	VCV0047	TRIMMER	1						
VR201	EVN7JGA00B14	V. RESISTOR	10K	1					
VR602	EVN7JGA00B53	V. RESISTOR	5K	1					
VR603	EVN7JGA00B13	V. RESISTOR	1K	1					
VR604	EVN7JGA00B22	V. RESISTOR	200	1					
VR605	EVN7JGA00B13	V. RESISTOR	1K	1					
VR607	EVN7JGA00B14	V. RESISTOR	10K	1					
VR608	EVN7JGA00B53	V. RESISTOR	5K	1					
VR609, 10	EVN7JGA00B23	V. RESISTOR	2K	2					
VR801	EVN7JGA00B23	V. RESISTOR	2K	1					
VR802, 03	EVN7JGA00B13	V. RESISTOR	1K	2					
VR804	EVN7JGA00B23	V. RESISTOR	2K	1					
X201	VSX0877	CRYSTAL OSCILLATOR	1						
X301	VSX0891	CRYSTAL OSCILLATOR	1						

V17723# / 031031
V19921# / 1030051 ✓
020162# / 0014141

Order No. VSD9710SB652

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Mechanical Chassis Unit Supply Information

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D700E/EN	53	VSD9606M501A	---
AJ-D200HE	11	VSD9708M604	---
AJ-D800E/EN	4	VSD9708M606A	---

Mechanical Chassis Assembly (2)

To improve the serviceability and manufacturing productivity, the Mechanical Chassis unit is supplied with the Cassette Compartment Unit as follows.

AJ-D700/D800

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
	VXY1229	VXY1229	MECHANICAL CHASSIS U	1	

AJ-D200

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
	VXY1287	VXY1287	MECHANICAL CHASSIS U	1	

TM3549TM3614

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V199210430.057

Order No. VSD9812SB712

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Addition of Tape Guide

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D700E/EN	116	VSD9606M501A	L8TKA0001
AJ-D800E/EN	78	VSD9708M606A	L8TKA0001
AJ-D200HE	39	VSD9708M604	L8TKA0001

Mechanical Chassis Assembly (2)

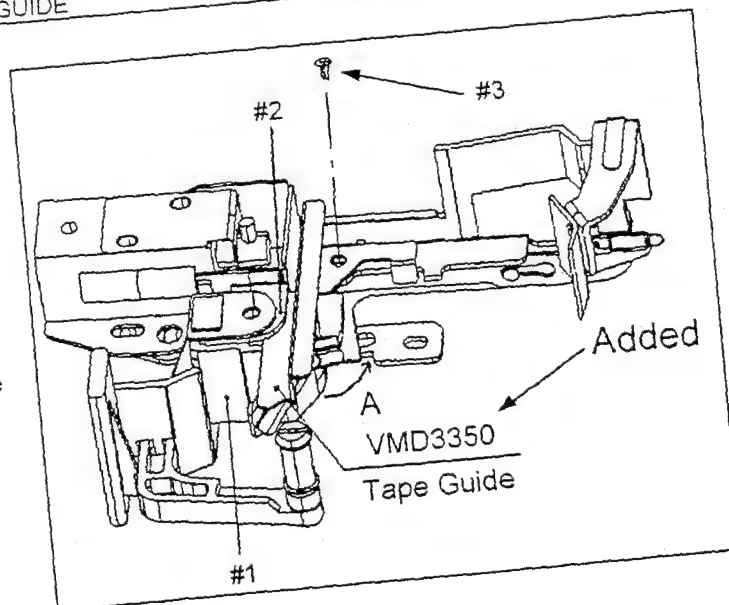
Symptom : The RF signal may be recorded only at the exit side of RF envelope.

Cause : If the power is turned OFF during the tape loading, the tape may slack by the timing of turning off. If the unit is vibrated by the tape slack, the tape may take off from the S1 and S4 posts.

Remedy : To prevent the tape from taking off from the post, Tape Guide (VMD3350) is added over the tension post even if the tape is slacked.

Part Number	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.				0→1	
60		VMD3350	TAPE GUIDE		

1. Remove the screw #3.
2. Install the Tape Guide (VMD3350) between #1 and #2.
3. Tighten the screw #3 loosely with the Tape Guide and tighten the screw #3 firmly pushing the Tape Guide to an arrow direction (A).
4. Confirm that the clearance between T1 post and T1 Guide is within specification. If it is out of specification, adjust the clearance according to <T1 Guide Position Adjustment> of the Service Manual.



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Photo Sensor Voltage Adjustment Range

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	51	VSD9708M604	L7TKA0001

Board : Servo (VEP82212B)

V19921 # 1030051

Symptom : Tape beginning/end detection level cannot be adjusted.

Cause : There is a little allowance of the adjustment range against the circuit tolerance.

Remedy : To improve the Photo Sensor Voltage Adjustment, the following modification is performed.

- 1). Resistor R553 is changed from 1/16W, 470Ω to 1/16W, 220Ω on the foil side. (A-3)
- 2). Variable resistor VR503 is changed on the foil side. (A-3)
- 3). Variable resistor VR504 is changed on the foil side. (A-3)
- 4). According to this change, the adjustment values of TP503 and TP504 are changed as follows.

TP503 (Vs) is $3.2V \pm 0.8V$
 TP504 (Vt) is $3.2V \pm 0.8V$

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
R553	ERJ3GEYJ471	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
VR503	EVM7JSX30B14	EVM7JSX30B24	V. RESISTOR	1	
VR504	EVM7JSX30B53	EVM7JSX30B24	V. RESISTOR	1	

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Relative Income

Relative income is a measure of the income of an individual or a group relative to the income of the rest of the population.

It is calculated as the ratio of the individual's income to the mean income of the population.

Relative income is a useful measure of income inequality and is often used to compare income distributions across different countries and time periods.

It is also used to study the relationship between income and health, education, and other social indicators.

Relative income is a key concept in the study of income inequality and is a widely used measure of income distribution.

It is a useful tool for comparing income distributions across different countries and time periods.

Relative income is also used to study the relationship between income and health, education, and other social indicators.

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Software Version Up Grade

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	52	VSD9708M604	L7TKA0001

Board : Servo (VEP82212B)

The following software has been up-dated to add the functioning of the VTR.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC501	MN6755486H8M	MN6755486H8P	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC501	SCM-31	D~H-7~10 (5/10)	CBA-3	C-3 (C)

< Improvement of Performance >

1. Tape damage may occur during loading mode. It is improved.
2. When the power is turned OFF, the tape stopping is delayed. It causes the tolerance of circuit adjustment. It is improved.
3. When the mode is changed, the tape may be loosened. It is improved.

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Addition of Screw Adhesive

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200E	65	VSDD9708M604	I9TKA0001
AJ-D215HE	2	VSD9904M007	I9TKA0001

Frame Assembly (1)
Frame Assembly (2)

V19921# 1030051 ✓
V24392# 2023112

Symptom : The screws on the Frame Assembly (1) and (2) sections may be loosened.

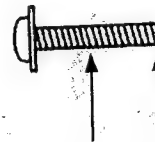
Remedy : Screw adhesive is applied to the screws on the Frame Assembly (1) and (2) sections.

- Regarding the locations of the adhesive application to the screws on the Frame Assembly (1) and (2) sections, refer to the next page.
- Specification of screw adhesive application

* Approx. 0.02g of the adhesive must be applied to the surface of the thread from the tip to the half of the thread section.

Note

After applying the adhesive, check that it covers the visible area on the thread.



Apply adhesive to the half of the thread section.

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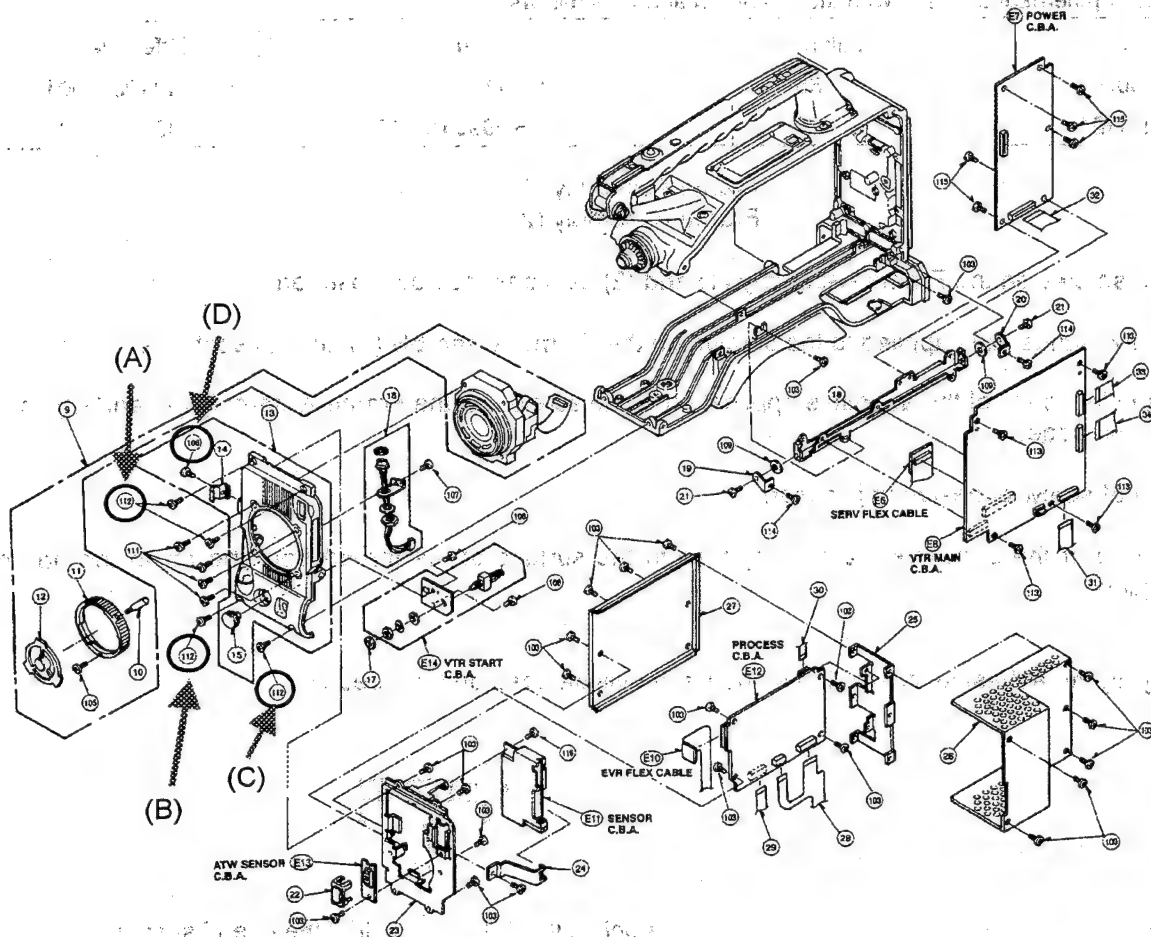
Adhesive Application Positions

- 1) Frame Assembly (1) ... 5 positions
- 2) Frame Assembly (2) ... 23 positions

Reference Exploded Views of Adhesive Application Locations

* As per the Exploded Views of Service Manual

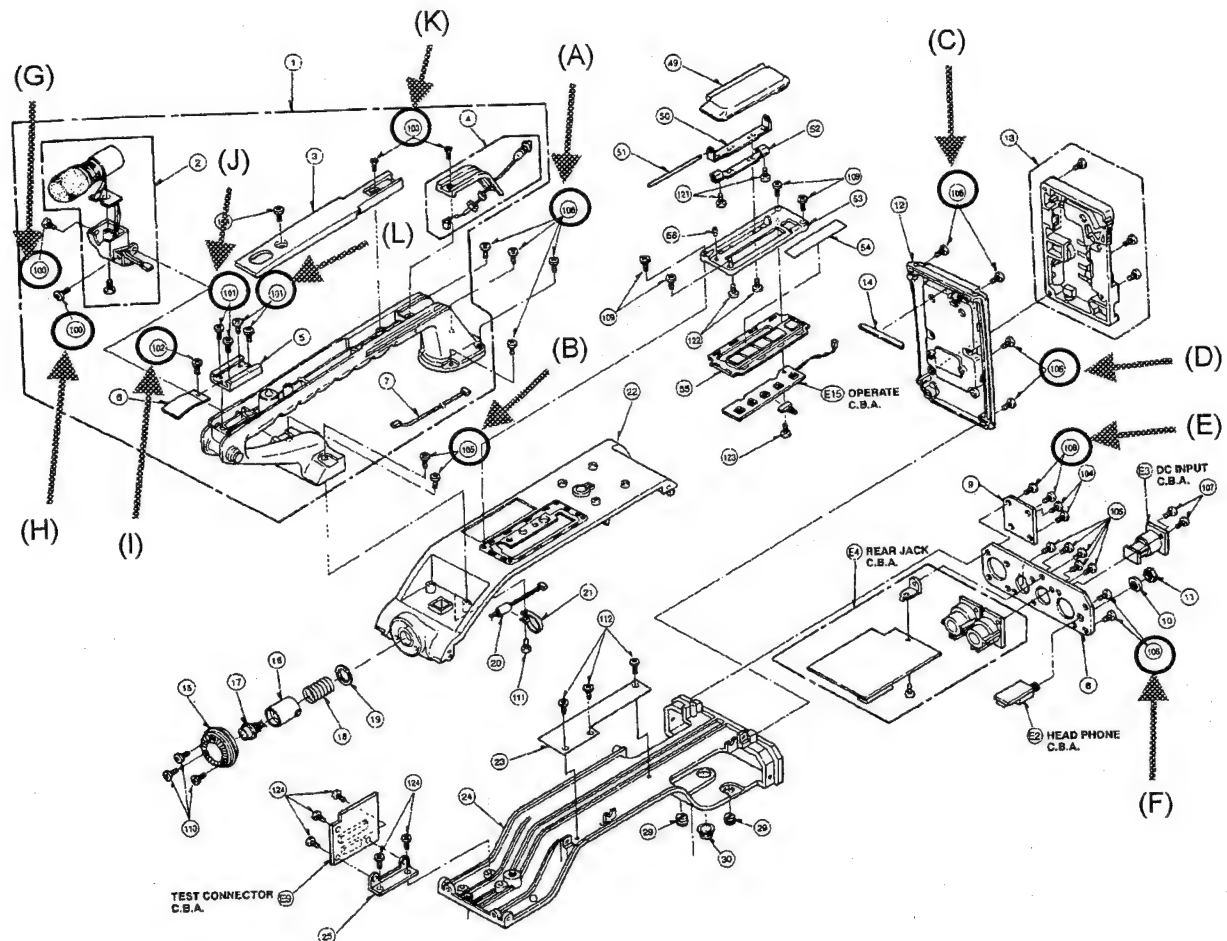
- 1). Frame Assembly (1)
(Application locations)
A (X2), B (X1), C (X1), D (X1)



2). Frame Assembly (2)

(Application locations)

(Application locations)
A (X4), B (X2), C (X2), D (X2), E (X2), F (X2), G (X1), H (X1), I (X1), J (X2), K (X2), L(X2)



Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Countermeasure for Damage of Cylinder Driver IC

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	60	VSD9708M604	B9TKA0001

Board : Servo (VEP82212B)
VM_LIMIT (VEP80B09A)

Symptom : When recording after condensation is released, E SLACK (CYL NG) may occur.

Cause : The driver IC may be damaged due to the following conditions.

- 1). Due to the repetition of starting of cylinder rotation or switching of modes (rotation speeds).
 - 2). Tape sticks to the cylinder in the reduced condensation that is not detected yet and the cylinder phase is swung right and left. Then excessive fluctuation of load is brought to the driver IC.
 - 3). The drive current is supplied to the cylinder even if the cylinder is locked due to the condensation.
- * This phenomena occurrence may increase when the Menu Setting "HUMID OPE" is set to ON.

Remedy : 1). The VM_LIMIT P.C. Board (which limits the voltage applied to the motor driver) is added.

2). Resistor R218 (ERJ8GCGY681) is deleted from the foil side.

* Note *When this modification is introduced, IC202 (MDC05) must be replaced with a new one at the same time. Because it may be fatigued by overload.

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
R218	ERJ8GCGY681	---	M.RESISTOR CH 1/8W 680	1→0	
C1	---	VEP80B09A	VM LIMIT P.C. BOARD	0→1	
IC1	---	ECUX1E104KBN	C.CAPACITOR CH 25V 0.1U	0→1	
Q1, Q2	---	TA75W393FU	IC	0→1	
QR1	---	2SD1820R	TRANSISTOR	0→2	
R1	---	UN5213	TRANSISTOR-RESISTOR	0→1	
R2	---	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	0→1	
R3	---	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	0→1	
R4	---	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	0→1	
R5, R6	---	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	0→1	
R7	---	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	0→2	
R8, R9	---	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	0→1	
R10	---	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	0→2	
	---	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	0→1	

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Installation of VM LIMIT P.C. Board for Servo P.C. Board (VEP82212B) (for models AJ-D200HE)

1. Attach the VM_LIMIT P.C. Board on IC501 with adhesive tape.
2. Connect the jumper wires (J2, J4 and J6) from the terminals (2), (4) and (6) on the VM_LIMIT P.C. Board to the pins #16, #9 and #8 of IC301 respectively as shown below.
3. Remove R218 (1/8W, 680Ω) from the foil side.
4. Connect the jumper wires (J1, J3 and J5) from the terminals (1), (3) and (5) on the VM_LIMIT P.C. Board to the land of L202 (near L201 side), the land of R218 (near Q201 side) and the other land of R218 respectively as shown below.

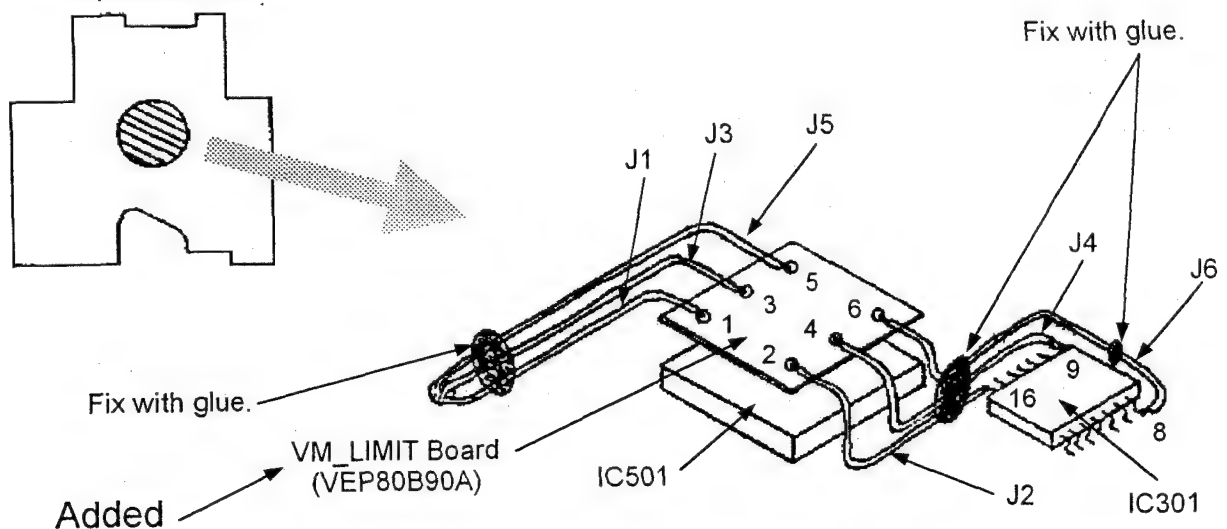
VM_LIMIT Board

J1 terminal (1)
J2 terminal (2)
J3 terminal (3)
J4 terminal (4)
J5 terminal (5)
J6 terminal (6)

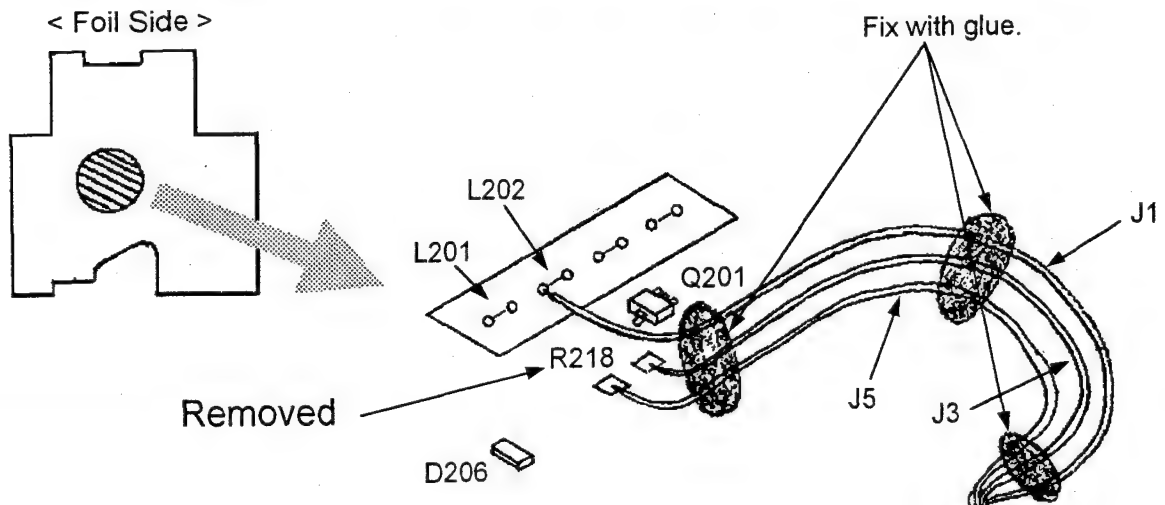
Servo Board

land of L202 (near L201 side) <foil side>
pin #16 of IC301 <component side>
land of R218 (near Q201 side) <foil side>
pin #9 of IC301 <component side>
land of R218 (far from Q201 side) <foil side>
pin #8 of IC301 <component side>

< Component Side >



< Foil Side >



Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Standardization of S RAM IC

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	56	VSD9708M604	F8TKA0001

Board : VTR Main (VEP83356B)

V19921 # 1030051

Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.
- ☐ The following part(s) has (have) been changed for productivity improvement.
- ☒ The following part(s) has (have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
IC6012	KM68V1BL	KM68V1CLTE7L	IC	1	
IC6018	KM68V1BL	KM68V1CLTE7L	IC	1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Reduction of Audio Pop Noise

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	55	VSD9708M604	C8TKA0001

Board : VTR Main (VEP83356B)

Symptom : Audio pop noise may occur.

Cause : When the power is turned ON and then OFF, the phase of audio frame pulse and audio clock is not fixed. Then latch timing failure may occur in the LSI and audio sample number in 1 frame becomes irregular. It results in audio pop noise.

Remedy : To reduce the audio pop noise, the following modification is performed.

- 1). Float the leg of pin #13 of IC33 and then cut it on the foil side as shown in figure 1.
- 2). Connect a jumper wire between pin # 12 of IC33 and the CTP land (near pin #12 of IC6) on the foil side as shown in figure 1.

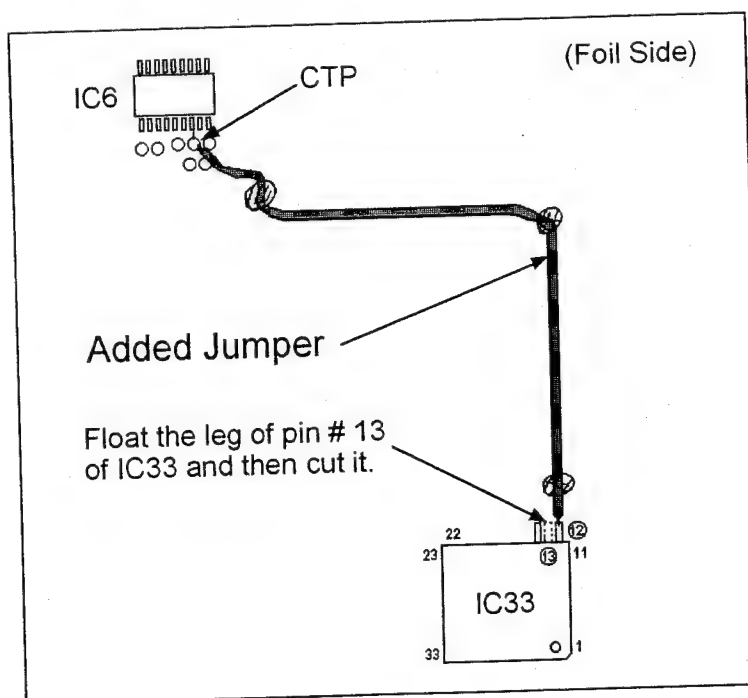


Fig. 1

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Software Version Up Grade

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	53	VSD9708M604	B8TKA0001

Board : VTR Main (VEP83356B)

The following software has been up-dated to add the functioning of the VTR.

Part Number						
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks	
IC6001	VSI2688	VVSI2688B	VTR SYSCON FLASH ROM Ver.1.15	1		

< TEST MENU >

☐ VTR SYSCON IC6001 : 1.15

The marked (*) version is the device which has been changed from this software revision.

Symptom : When the power is turned OFF, the power supply still works. And then, when the power is turned ON after for a while, the unit rejects any movement.

Cause : Software bugs.

Remedy : To prevent it, the VTR System Control software (Flash Memory ROM) is up-graded to version 1.16.

< Other Improvement of Performance >

1. When the ABB is not performed during AWB mode, error display is not appeared. It is displayed.

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Supplement to the Service Manual

Broadcast Product

Subject : Standardization of Capacitor

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	50	VSD9708M604	K7TKA0001

Board : V DEF (VEP27087A)

Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.
☐ The following part(s) has (have) been changed for productivity improvement.
☒ The following part(s) has (have) been changed for standardization.
☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
C7005	ECGC1BA4R7	ECGC1BB4R7	C. CAPACITOR 12V 4.7P	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
C7005	SCM-45	C-5	CBA-8	—

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of 3.6V Adjustment

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	49	VSD9708M604	K7TKA0001

Board : Power (VEP81179A)

To improve the 3.6V Adjustment, resistor R1021 is changed from 1/10W, 4.3K Ω to 1/10W, 5.6K Ω on the foil side as follows.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R1021	VRE0034E432	ERJ6RBD562	M. RESISTOR CH 1/10W 5.6K	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R1021	SCM-41	C-12 (1/3)	CBA-4	A-3 (F)

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Audio Monitor Level

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	47	VSD9708M604	J7TKA0001

Board : Monitor VR (VEP80A18A)

Symptom : Audio sound may not be heard when the audio volume is rotated less than 5 scale.

Cause : Increase of audio monitor level is not linear.

Remedy : To improve it, variable resistor VR9200 is changed from VRV0080 to VRV0270 on the component side.

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
VR9200	VRV0080	VRV0270	V. RESISTOR	1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Correction in Parts Number List

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	46	VSD9708M604	---

Board : VTR Main (VEP83356B)
Pre Shuffle (VEP83357A)

VTR Main Board

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
C4062	VCE0200331	VCE0200	C. CAPACITOR	1	

Pre Shuffle Board

Part Number				Pcs	Remarks
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		
C830	VCE0200331	VCE0200	C. CAPACITOR	1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of ALC Control during Auto Iris Mode

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	44	VSD9708M604	I7TKA0001

Board : VTR Main (VEP83356B)

Symptom : Proper ALC control may not be performed during Auto Iris mode.

Cause : Dispersion of Analog voltage is wide due to the coarse accuracy of the resistor.

Remedy : To improve the ALC control, resistors R6011 and R6016 are changed to high accuracy resistors as follows.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R6011	ERJ3GEYJ153	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R6016	ERJ3GEYJ103	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
R6011	SCM-23	D-2 (16/19)	CBA-2	B-2 (F)
R6016	SCM-23	D-3 (16/19)	CBA-2	B-1 (F)

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Reduction of Vertical Line Noise

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	42	VSD9708M604	I7TKA0001

Board : Process (VEP23422B)

Symptom : Vertical line noise may appear.

Cause : Due to the noise from IC.

Remedy : To reduce the vertical line noise, the following modification is performed.

- 1). Coil L318 (VLP0154) is removed from the foil side.
- 2). Resistor (1/16W, 27 Ω) is added after the removing portion of L318 on the foil side.
- 3). After this modification, specification of DC Voltage Adjustment is changed from $3.15 \pm 0.01V$ to $3.10 + 0.01V/-0.00V$ on the Service Manual Page 4-2 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
L318	VEP23422A	VEP23422B	PROCESS P.C.BOARD	1	
	VLP0154	ERJ3GEYJ270	M. RESISTOR CH 1/16W 27	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
L318	SCM-7	I-21	CBA-7	D-7 (F)

1. Power

1-1. DC Voltage Adjustment

ITEM	TEST	ADJUST	SPEC.
3.15V ADJ.	*TP9	VR5	$3.15 \pm 0.01V$
3.6V ADJ.	TP4	VR3	$3.6 \pm 0.05V$
5.0V ADJ.	TP5	VR2	$5.0 \pm 0.05V$
5.6V ADJ.	TP3	VR1	$5.6 \pm 0.05V$
-5.6V ADJ.	TP8	VR6	$-5.6 \pm 0.51V$
9.0V ADJ.	TP6	VR4	$9.0 \pm 0.05V$
48V Confirm	TP9	---	$44.0 \pm 4.0V$

⇒ $3.10 + 0.01V/-0.00V$

Changed

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of PCM Audio Mute under High Temperature

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	41	VSD9708M604	I7TKA0001

Board : Video Main (VEP83356B)

Symptom : PCM Audio noise may be muted under high temperature. (40°C)

Cause : Audio VCO PLL may not be locked under high temperature. It results in PCM Audio mute.

Remedy : To prevent the PCM Audio mute, the following modification is performed.

- 1). Resistor R70 (VTR0145) is removed from the foil side as shown in figure 1.
- 2). Resistor R71 is changed from 1.5K Ω to 3K Ω on the foil side as shown in figures 1 and 2.
- 3). One side legs of resistors R70 and R79 are cut to 5mm and then bent them as shown in figure 2.
- 4). The other side legs of them are soldered as shown in figure 2.
- 5). Attach the insulation sheet on the foil side as shown in figure 2.
- 6). No soldered side of resistor R70 is installed to R183 as shown in figure 2.
- 7). No soldered side of resistor R79 is installed to R71 as shown in figure 2.

*** Note *** When the resistors R70 and R79 are bent after soldered to chip resistors (R71 and R183), the electrode may be peeled off. Be sure legs of resistors R70 and R79 must be bent before soldering.

- 8). After this modification, 2-3. AUDIO VCO Adjustment is required. Please refer to the Service Manual Page 4-2.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
R71	ERJ3GEYJ152	ERJ3GEYG302	M. RESISTOR CH 1/16W 3K	1	
R79	—	VRT0145	THERMISTER	0→1	

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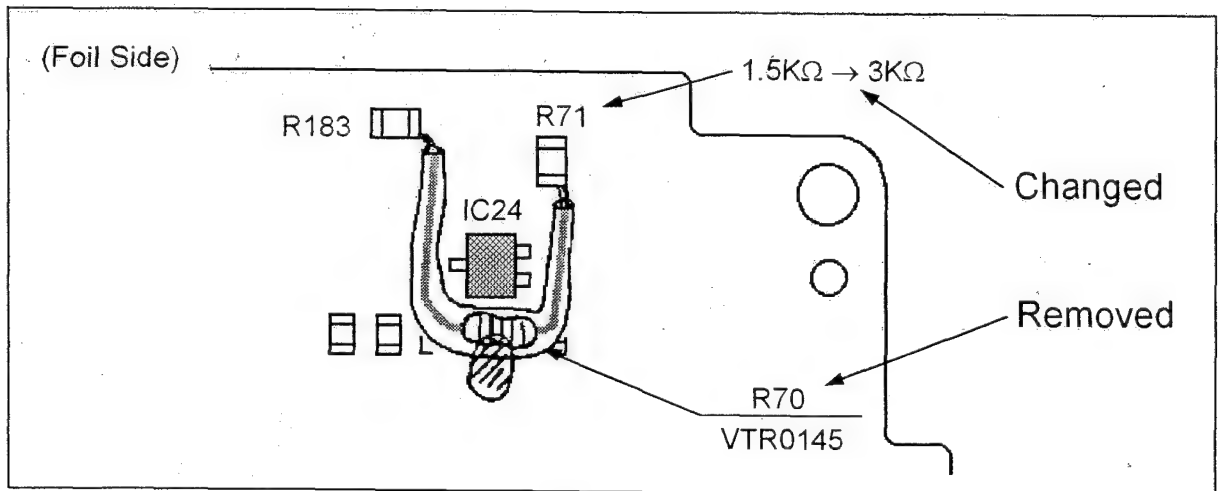


Fig. 1

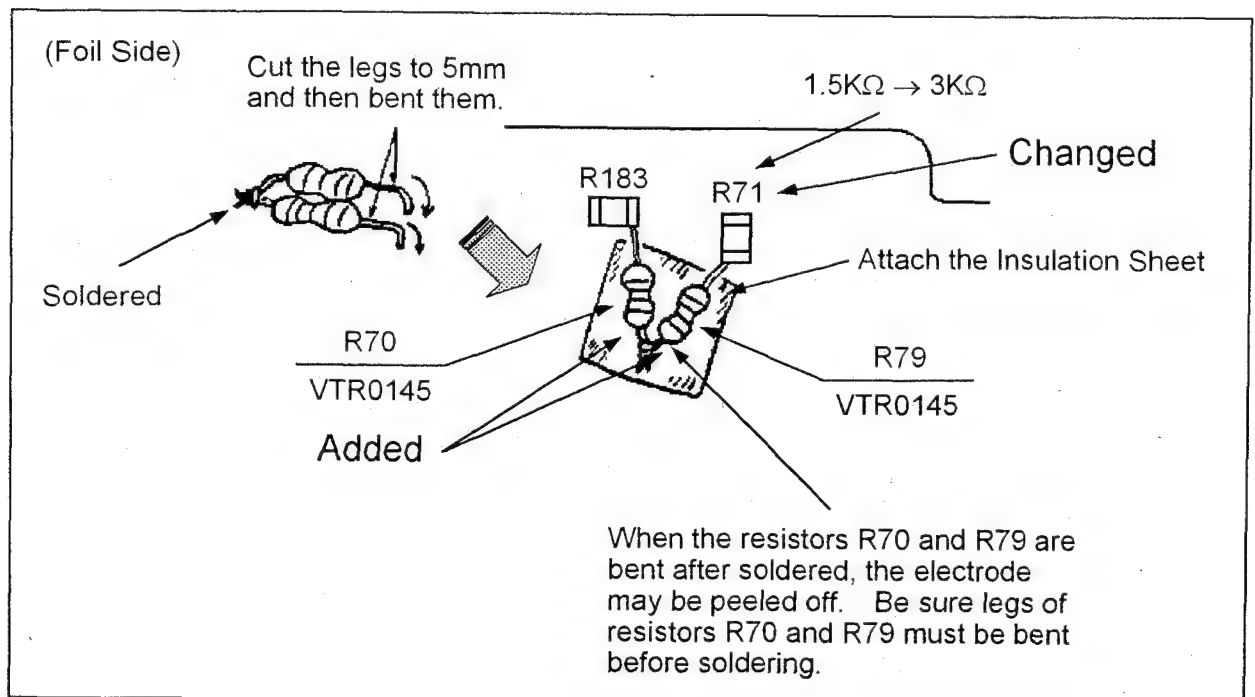


Fig. 2

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change of ROM Type

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	40	VSD9708M604	I7TKA0001

Board : Servo (VEP82212B)

To improve manufacturing productivity, IC501 is changed from one time memory type PROM to masking type PROM.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
IC501	VSI2407B	MN6755486H8M	IC	1	

Ref. No.	Schematic Diagram		P.C. Board	
	Page	Area No.	Page	Area No.
IC501	SCM-31	D-H-7~10 (5/10)	CBA-3	C-3 (C)

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Correction in Parts Number List

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	37	VSD9708M604	—

VJ9921 #1030051

Packing Parts Assembly

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
2	VQT7073	VQT7284	OPERATING INSTRUCTIONS	1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Correction in Parts Number List

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	13	VSD9708M604	---

Frame Assembly (1)
Frame Assembly (2)

Frame Assembly (1)

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
25	VSC4644	VMP5372	C.B.A. SUPPORT ANGLE	1	
26	VMP5372	VSC4644	SHIELD CASE (1)	1	

Frame Assembly (2)

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
124	---	XYE3+EF6R	SCREW	0→3	

V19901 + 1030051

Order No. VSD9809SE632

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Reel Motor Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	35	VSD9708M604	F8TKA0001

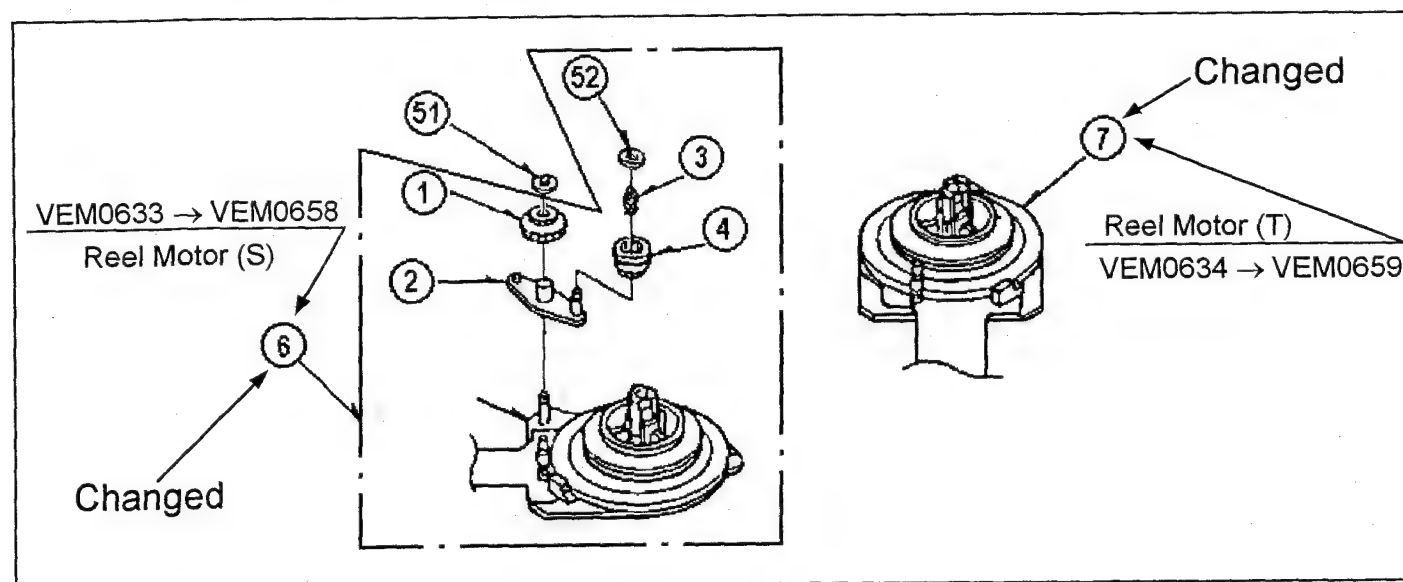
Mechanism Chassis Assembly (1)

Symptom : Reel Table may take off.

Cause : Brake Arm may get under the Reel Table and the stator coil covering may be broken by it, then rare short may occur. It results in Reel Table come off.

Remedy : To prevent it, the Rotor Stopper is added to the Reel Motor (S) and (T). And the Reel Motor (S) and (T) are changed as follows.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
6	VEM0633	VEM0658	REEL MOTOR (S)	1	
7	VEM0634	VEM0659	REEL MOTOR (T)	1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Main Cam Arm Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	33	VSD9708M604	D8TKA0001

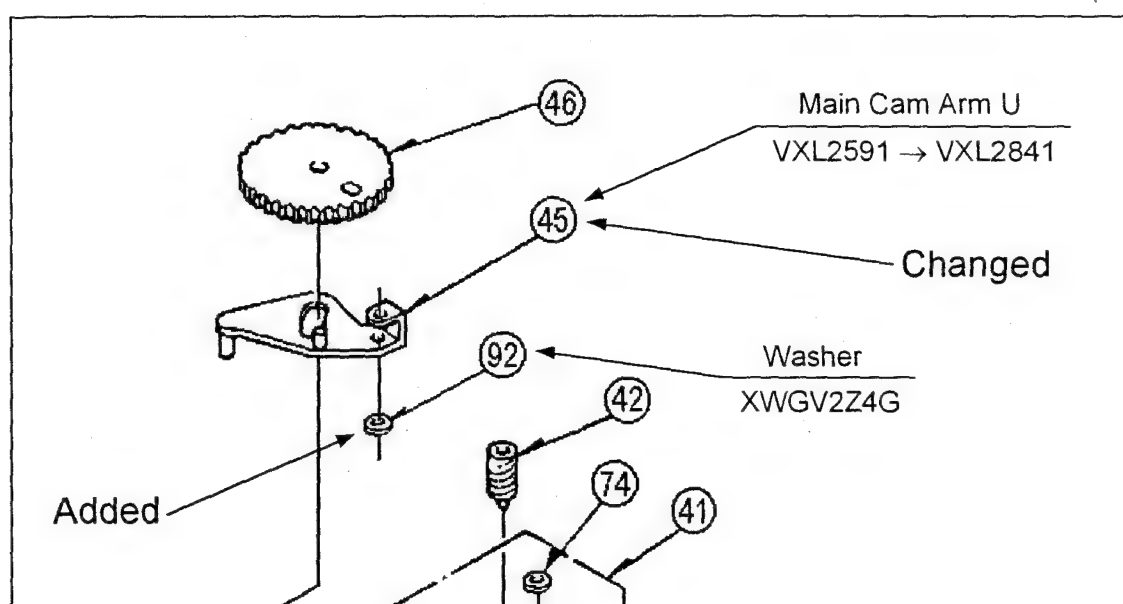
Mechanical Chassis Assembly (2)

Symptom : U-shaped portion of the Main Cam Arm Unit may be broken when the loading is repeated.

Cause : Due to the lack of material strength.

Remedy : To prevent it, the Main Cam Arm Unit is changed from VXL2591 to VXL2841 and the washer (XWGV2Z4G) is added under the Main Cam Arm Unit as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
45	VXL2591	VXL2841	MAIN CAM ARM U	1	
92	—	XWGV2Z4G	WASHER	0→1	



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3214/1030051

Order No. VSD9808SE624

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Pinch Roller

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	27	VSD9708M604	C8TKA0001

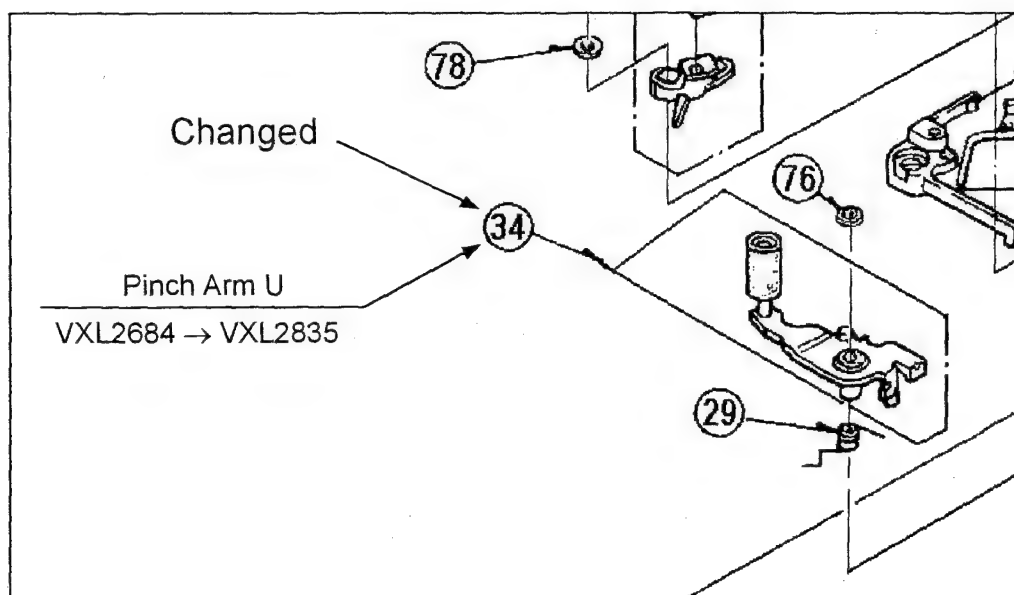
Mechanical Chassis Assembly (2)

Symptom : Pinch Roller may be cracked.

Cause : Due to the lack of plasticizer from the Pinch Roller rubber and atmosphere. (Ozone) It results in Pinch Roller crack.

Remedy : To prevent it, the Pinch Arm Unit is changed from VXL2684 to VXL2835 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
34	VXL2684	VXL2835	PINCH ARM U	1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Tension Leg Spring

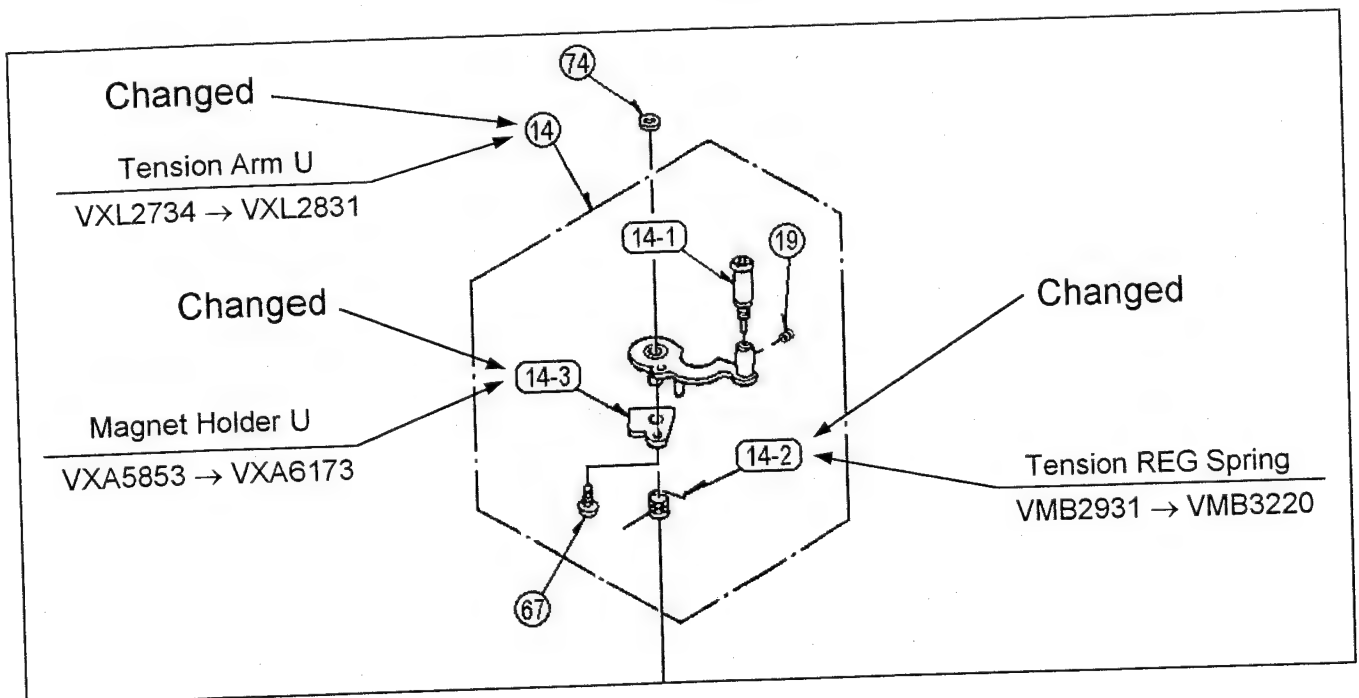
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	21	VSD9708M604	A8TKA0001

Mechanical Chassis Assembly (2)

To reduce the coil portion wear of the Tension Regulator Spring, the Tension Regulator Spring is changed from VMB2931 to VMB3220 as shown below. According to this change, the Tension Arm Unit and Magnet Holder Unit are changed as shown below.

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
14	VXL2734	VXL2831	TENSION ARM U	1	
14-2	VMB2931	VMB3220	TENSION REG SPRING	1	
14-3	VXA5853	VXA6173	MAGNET HOLDER U	1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change of Screw for Tension Sensor Unit

Please use this supplement together with the Service Manual as follows :

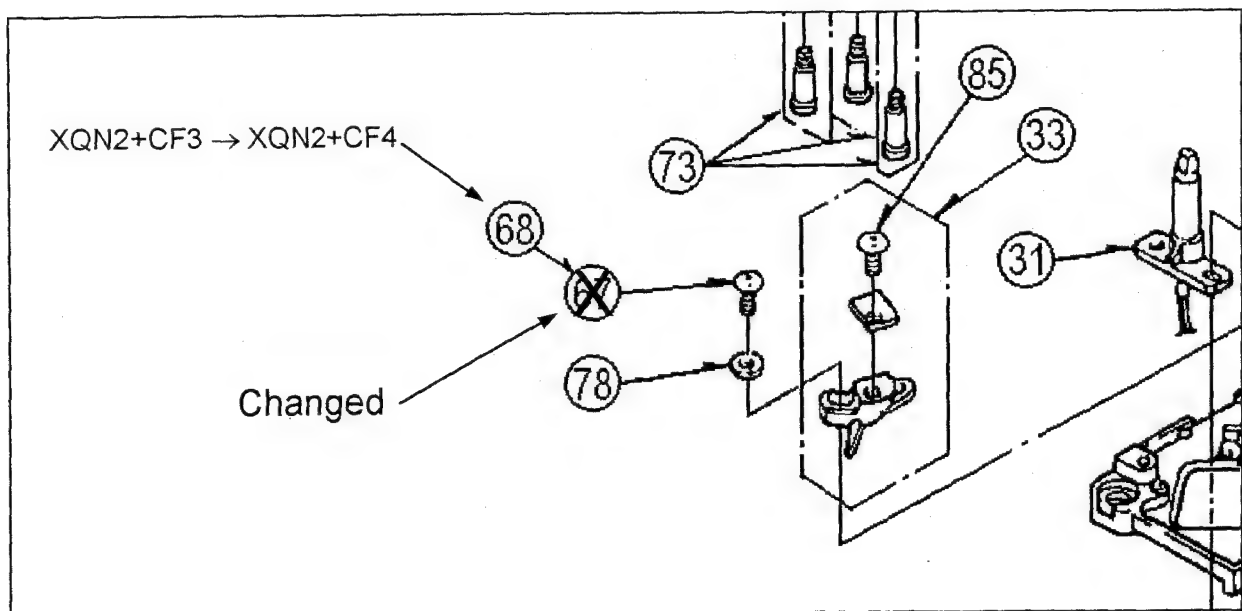
Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	20	VSD9708M604	K7TKA0001

Mechanical Chassis Assembly (2)

Reason for Change

- ☐ The following part(s) has (have) been changed for serviceability improvement.
- ☐ The following part(s) has (have) been changed for productivity improvement.
- ☒ The following part(s) has (have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
67	XQN2+CF3	—	SCREW	1→0	
68	—	XQN2+CF4	SCREW	0→1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Reduction of Click Sound from Cleaner Solenoid Unit

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	19	VSD9708M604	K7TKA0001

Mechanical Chassis Assembly (2)

Symptom : Click sound may be heard from the Cleaner Solenoid Unit when it functions.

Remedy : To reduce the click sound from the Cleaner Solenoid Unit, the Cleaner Solenoid is changed to the silencer type as shown below.

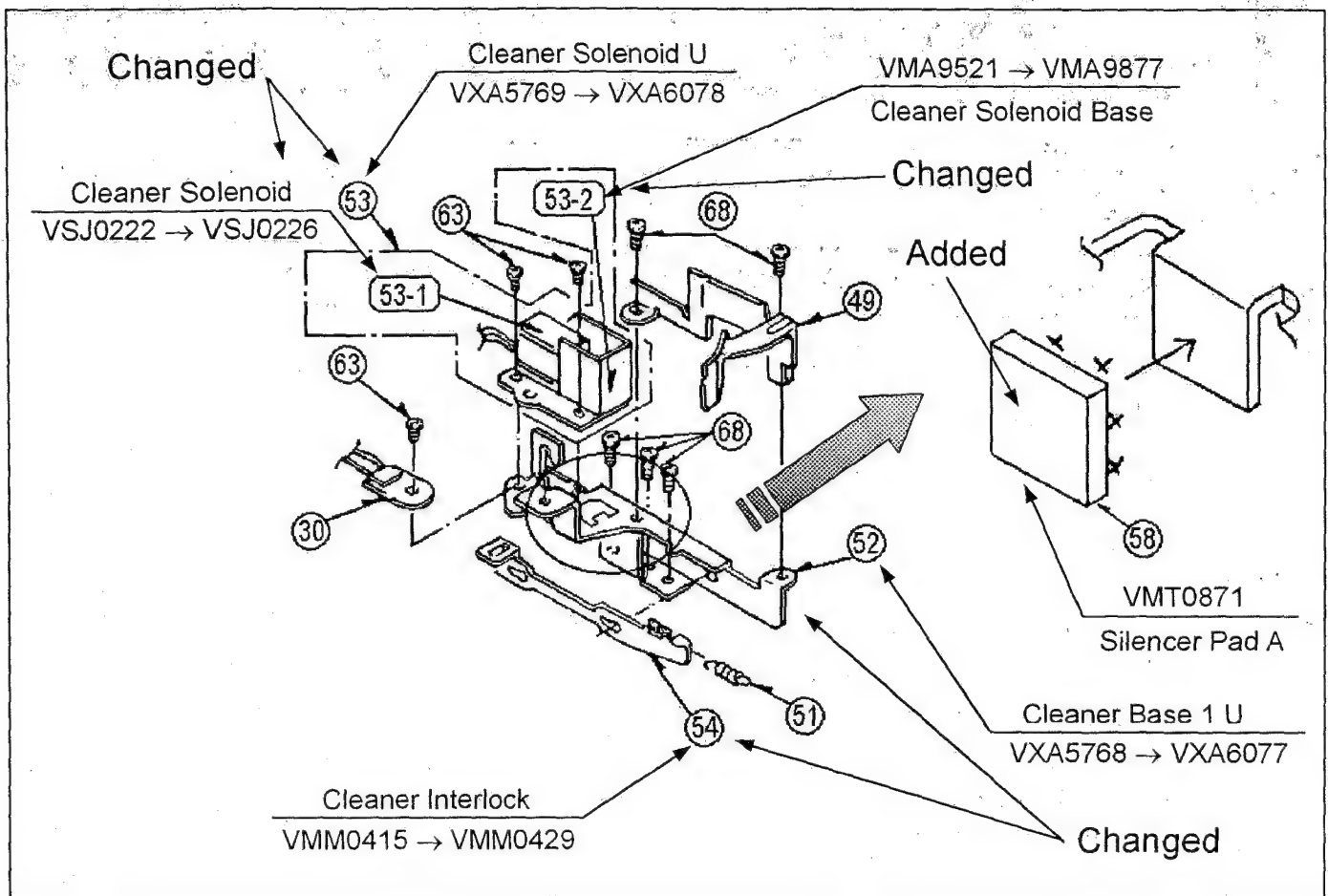
- 1). Change the Cleaner Base 1 Unit from VXA5768 to VXA6077.
- 2). Change the Cleaner Solenoid Unit from VXA5769 to VXA6078.
- 3). Change the Cleaner Solenoid from VSJ0222 to VSJ0226.
- 4). Change the Cleaner Solenoid Base from VMA9521 to VMA9877.
- 5). Change the Cleaner Interlock from VMM0415 to VMM0429.
- 6). Add a Silencer Pad A (VMT0871) to the Cleaner Base 1 Unit by adhesive as shown in figure 1.

Part Number			Part Name & Descriptions	Pcs	Remarks
Ref. No.	Original Part No.	New Part No.			
52	VXA5768	VXA6077	CLEANER BASE 1 U	1	
53	VXA5769	VXA6078	CLEANER SOLENOID U	1	
53-1	VSJ0222	VSJ0226	CLEANER SOLENOID	1	
53-2	VMA9521	VMA9877	CLEANER SOLENOID BASE	1	
54	VMM0415	VMM0429	CLEANER INTERLOCK	1	
58	—	VMT0871	SILENCER PAD A	0→1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Standardization of P.C. Board Fixing Screws

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	18	VSD9708M604	L7TKA0001

Frame Assembly (2)

To standardize the parts, the P.C. Board fixing screws to the Side Case (R) Unit are changed from XYN3+K6RS to XYN3+K8FR as shown below.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
120		XYN3+K6RS	XYN3+K8FR	SCREWS	16	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Standardization of Lock Spring

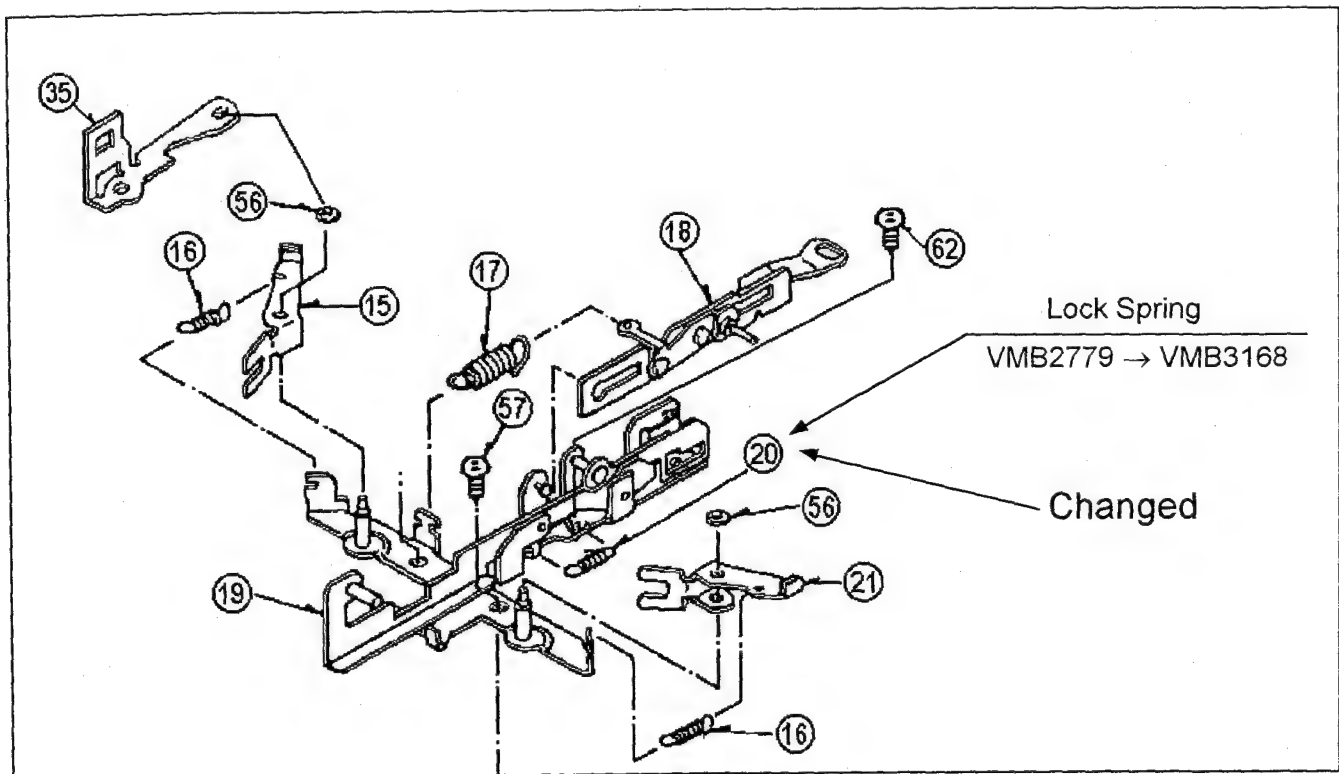
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	16	VSD9708M604	I7TKA0001

Mechanical Chassis Assembly (1)

To standardize the parts, the Lock Spring for L Cassette Brake Base Unit is changed from VMB2779 to VMB3168 as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
20	VMB2779	VMB3168	LOCK SPRING	1	



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051 # V19921

Order No. VSD9710SE613

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Prevention of P.C. Board Touching

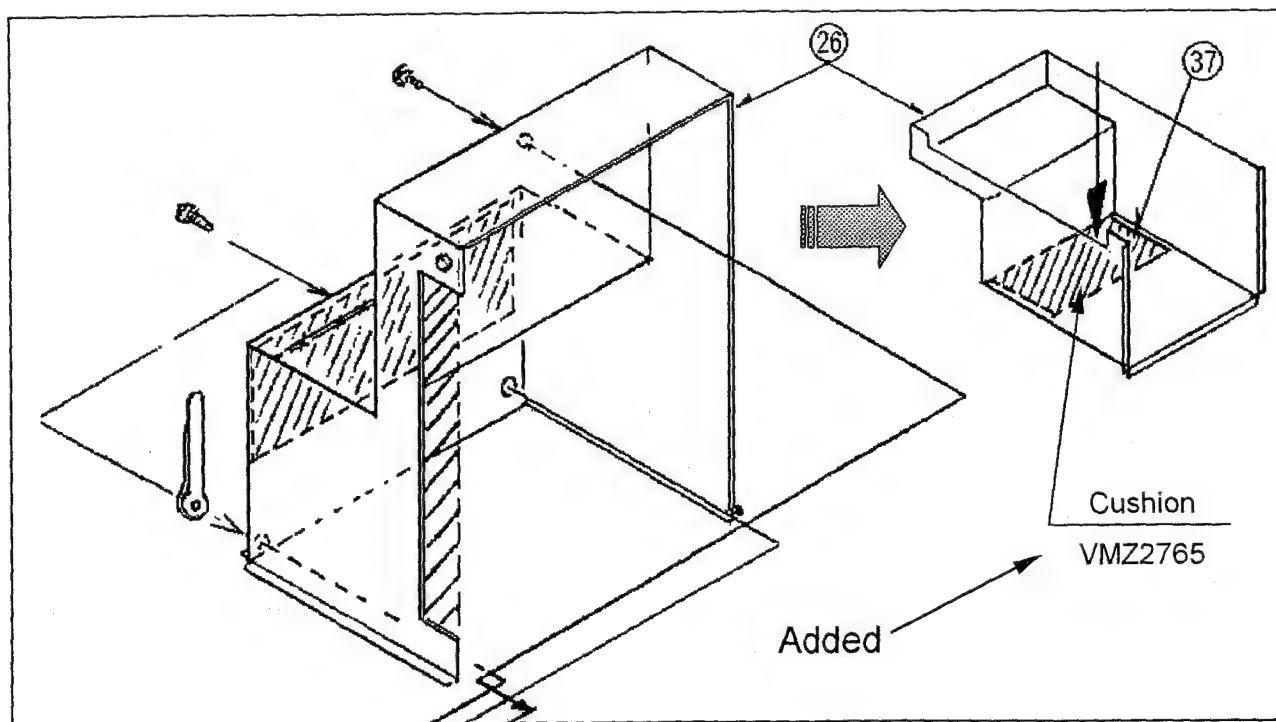
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	15	VSD9708M604	I7TKA0001

Frame Assembly (1)

To prevent the Sensor P.C. Board from touching with the Shield Case (1), a cushion for Sensor P.C. Board is added as shown below.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
37		—	VMZ2765	CUSHION	0→1	



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V-19927

Order No. VSD9710SE612

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change for CE Safety Regulation

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	14	VSD9708M604	I7TKA0001

Board : Rear Jack (VEP84297C)
 DC INPUT (VEP00X87C)
 AV OUT (VEP80A75A)
 Frame Assembly (1)
 Frame Assembly (2)

To meet the CE Safety Regulation, the following modification is performed.
 1). Rear Jack, DC INPUT and AV OUT P.C. Boards are changed as follows.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
		VEP84297B	VEP84297C	REAR JACK P.C. Board	1	
		VEP80A44A	VEP00X87C	DC INPUT P.C. Board	1	
		VEP80A43A	VEP80A75A	AV OUT P.C. Board	1	

< Frame Assembly (1) >

- The fixing screw (XYN3+C6) for the Sub Plate is deleted as shown in figure 1.
- The fixing screws for the C.B.A. Angle are changed from XYN3+C6 to XYN3+K8FR as shown in figure 2.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
103		XYN3+C6	XYN3+C6	SCREW	6→3	
117		—	XYN3+K8FR	SCREW	0→2	

< Frame Assembly (2) >

- Ferrite Core (VLP0186), Clamper (VJF0980) and fixing screw (XYN3+F6) are added to the Rear Case Unit as shown in figure 3.
- A fixing screw for the Blank Plate is changed from XSB3+6FZ to XSB3+10FZ as shown in figure 4.
- A Nut (XNG3B) and washer (XWC3B) are added to the Jack Plate as shown in figure 4.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
20		—	VLP0186	FERRITE CORE	0→1	
21		—	VJF0980	CLAMPER	0→1	
104		XSB3+6FZ	—	SCREW	1→0	
119		—	XSB3+10FZ	SCREW	0→1	
125		—	XYN3+F6	SCREW	0→1	

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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Reel Motor Unit

Please use this supplement together with the Service Manual as follows :

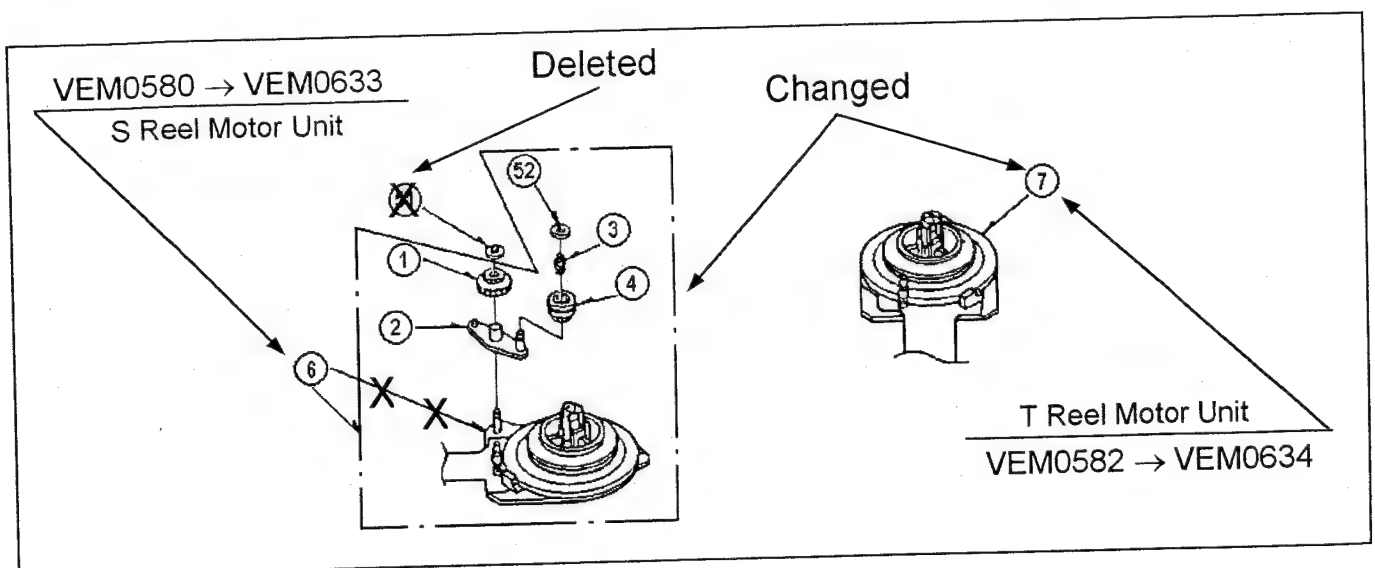
Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	10	VSD9708M604	I7TKA0001

Mechanism Chassis Assembly (1)

Symptom : Reel Motor (Rotor portion) may take off from the Stator portion during transportation.

Remedy : To prevent it, the Rotor portion of Reel Motor and Idler Gear Unit are united with the Stator portion of Reel Motor as shown below.
According to this change, the 1-2.Cassette Height Position Pin Adjustment is not required.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
1		VDG1189	---	IDLER GEAR A	1→0	
2		VXL2614	---	IDLER GEAR	1→0	
3		VMB3011	---	IDLER SPRING	1→0	
4		VXP1700	---	IDLER GEAR B U	1→0	
6		VEM0580	VEM0633	S REEL MOTOR U	1	
7		VEM0582	VEM0634	T REEL MOTOR U	1	
51		VMX1061	---	CUT WASHER	1→0	
52		VMX2391	---	CUT WASHER	1→0	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change of Fixing Screws

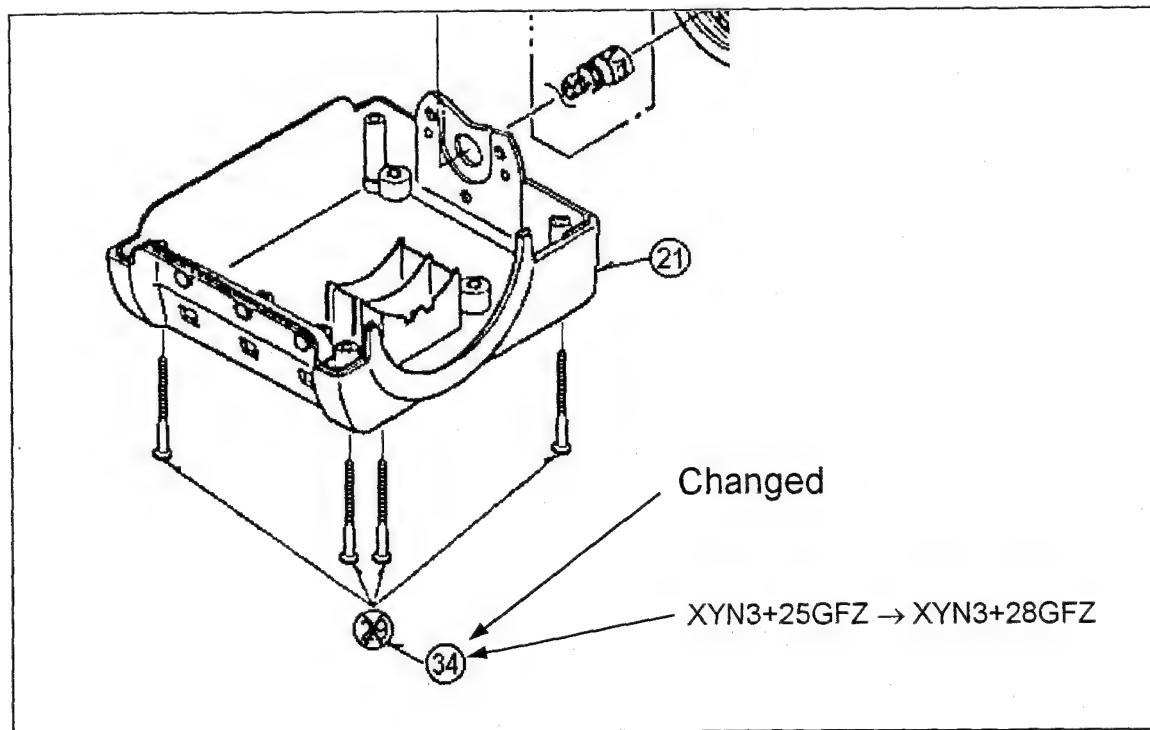
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	9	VSD9708M604A	I7TKA0001

EVF Assembly

To improve the fixing screws for the Top and Bottom cases, the screws are changed from XTN3+25GFZ to XTN3+28GFZ.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
29	XTN3+25GFZ	—	SCREW	4→0	
34	—	XTN3+28GFZ	SCREW	0→4	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change of Fixing Screw for Ferrite Core

Please use this supplement together with the Service Manual as follows :

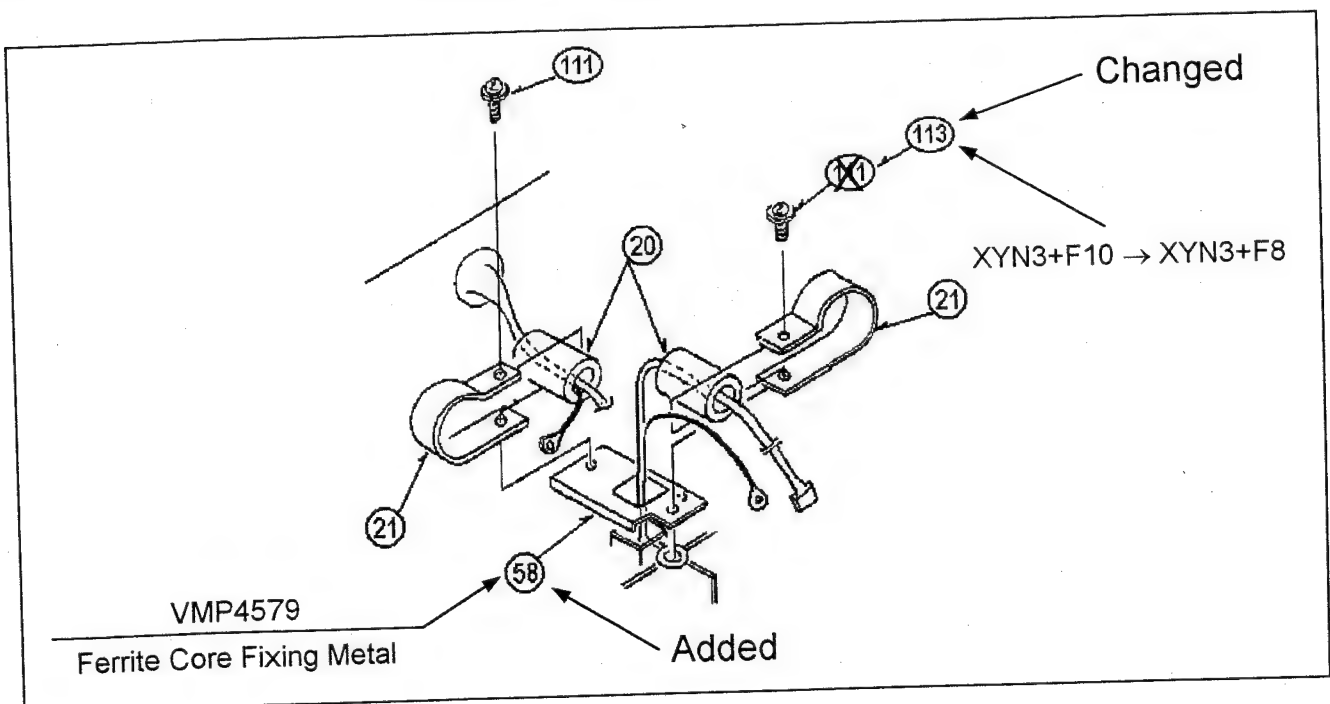
Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	8	VSD9708M604A	I7TKA0001

Frame Assembly (2)

Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☒ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
58		---	VMP4579	FERRITE CORE FIXING METAL	0→1	
111		XYN3+F10	---	SCREW	1→0	
113		---	XYN3+F8	SCREW	0→1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Cassette Compartment Unit

Please use this supplement together with the Service Manual as follows :

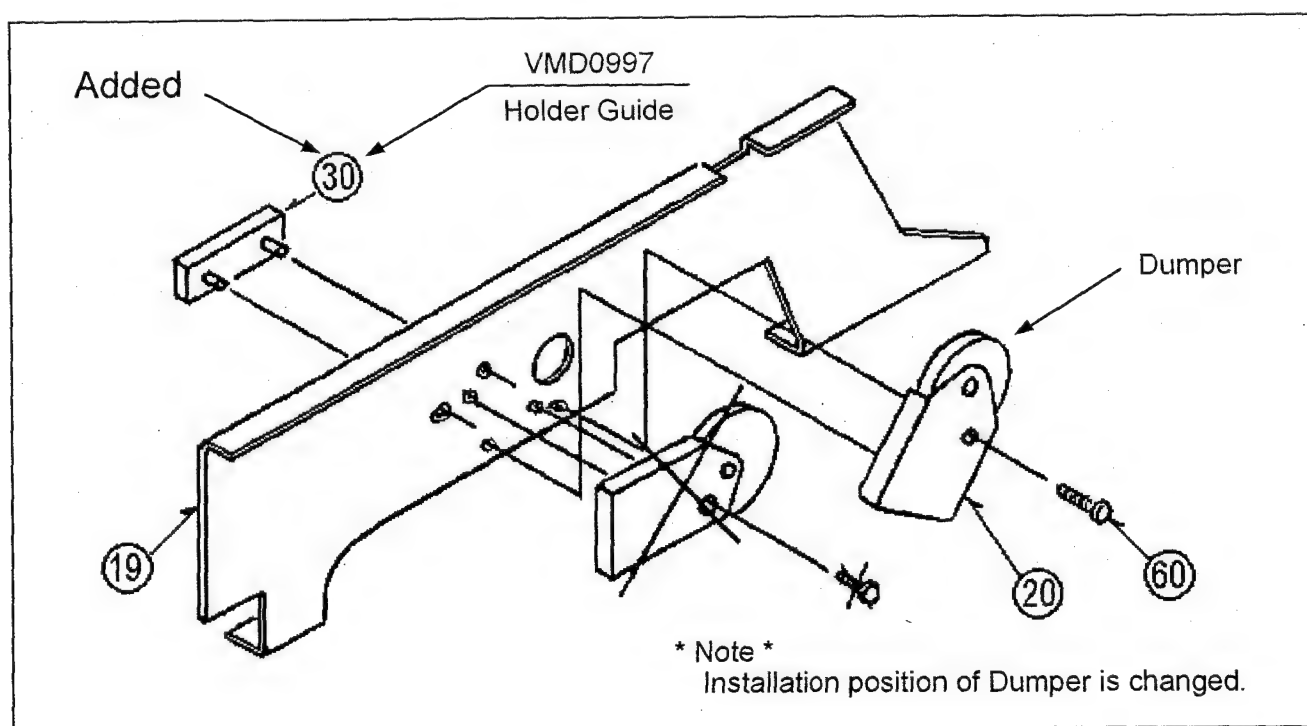
Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	7	VSD9708M604A	I7TKA0001

Cassette Compartment Assembly

To improve the Cassette Compartment, the Holder Guide (VMD0997) is added to the Side Plate (R) as shown below.

According to this change, the installation position of the Dumper is changed as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
30	---	VMD0997	HOLDER GUIDE	0→1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of L Cassette Brake Base Unit

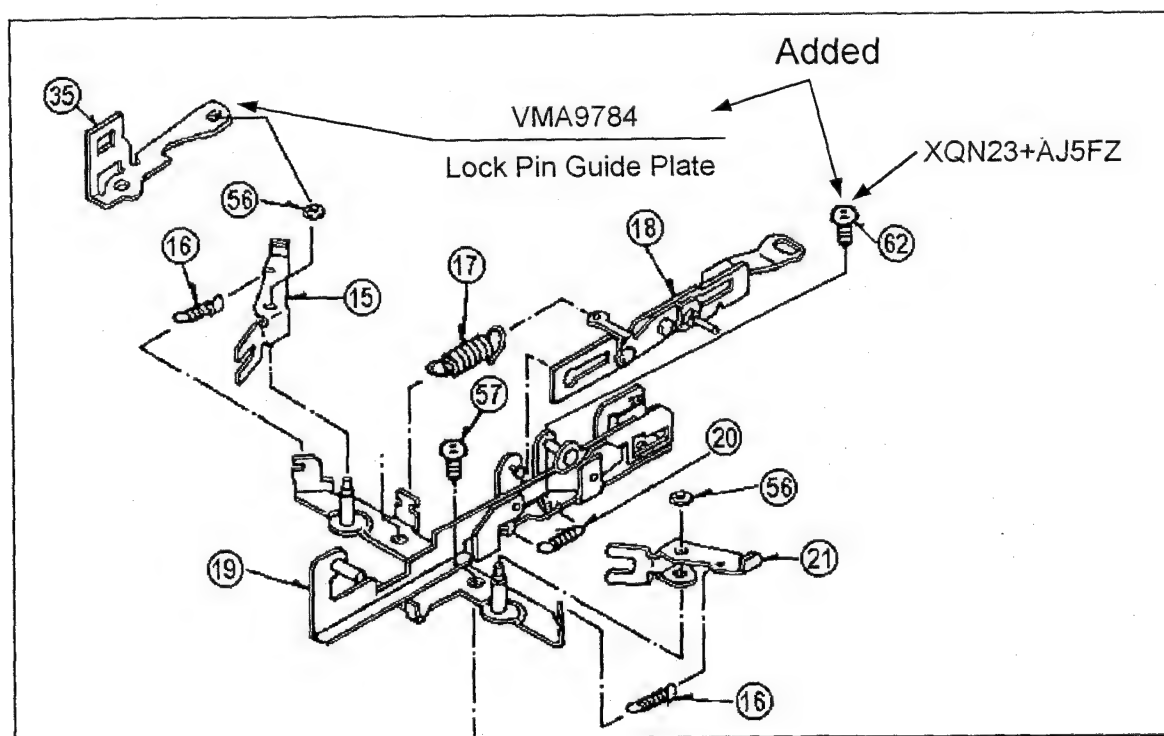
Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	5	VSD9708M604A	I7TKA0001

Mechanism Chassis Assembly (1)

To increase the reinforcement of L Cassette Brake Base Unit against the falling down, the Lock Pin Guide Plate (VMA9784) is added to the L Cassette Brake Base (1) Unit as shown below.

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
35	---	VMA9784	LOCK PIN GUIDE PLATE	0→1	
62	---	XQN23+AJ5FZ	SCREW	0→1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

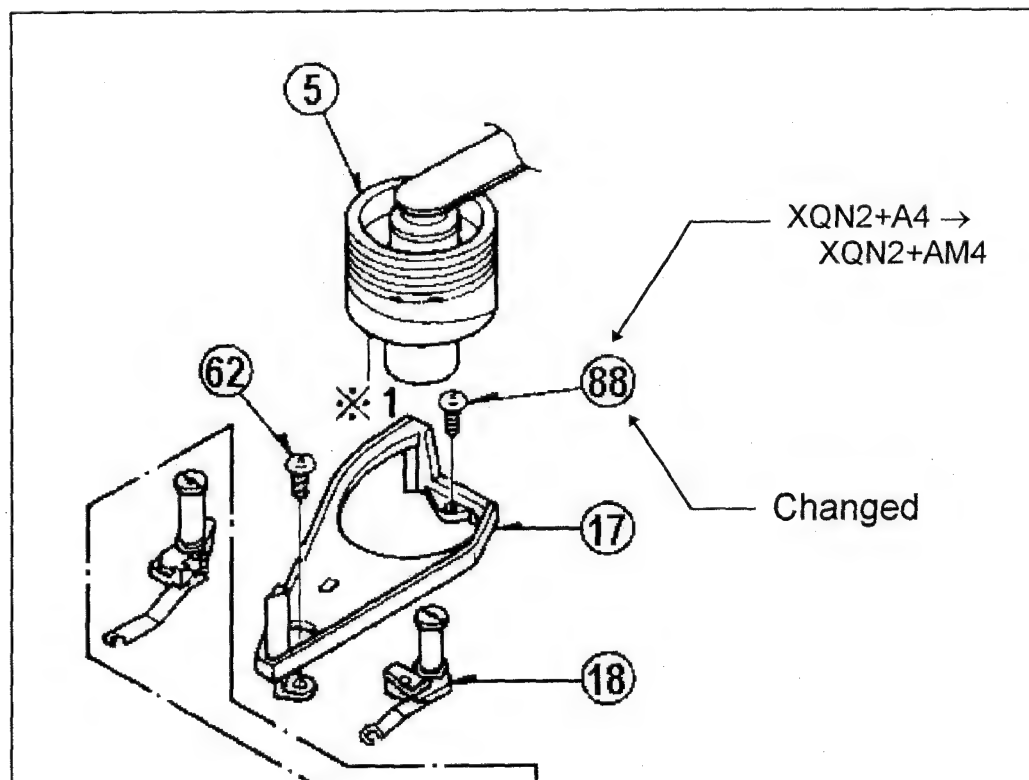
Subject : Service Manual Correction

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	4	VSD9708M604	---

Mechanical Chassis Assembly (2)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
88	XQN2+A4	XQN2+AM4	SCREW	1	



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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Change of Screws

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	3	VSD9708M604	I7TKA0001

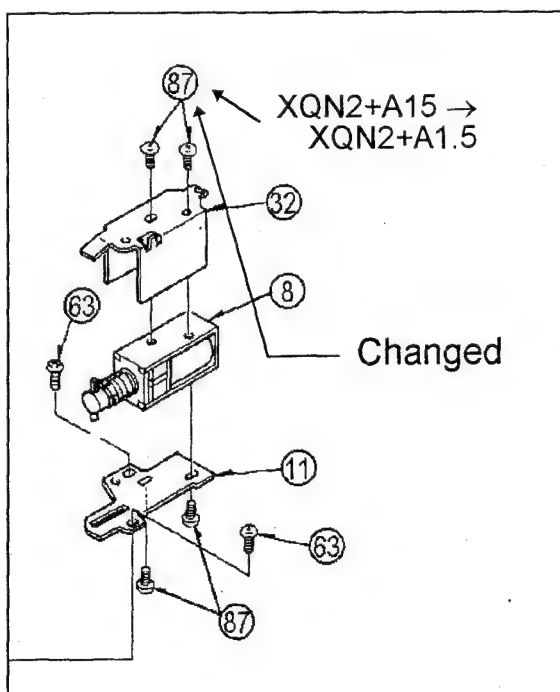
Mechanical Chassis Assembly (2)

Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☒ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.

Mechanical Chassis Assembly (2)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
87	XQN2+A15	XQN2+A1.5	SCREW	4	



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Technical Bulletin

Supplement to the Service Manual

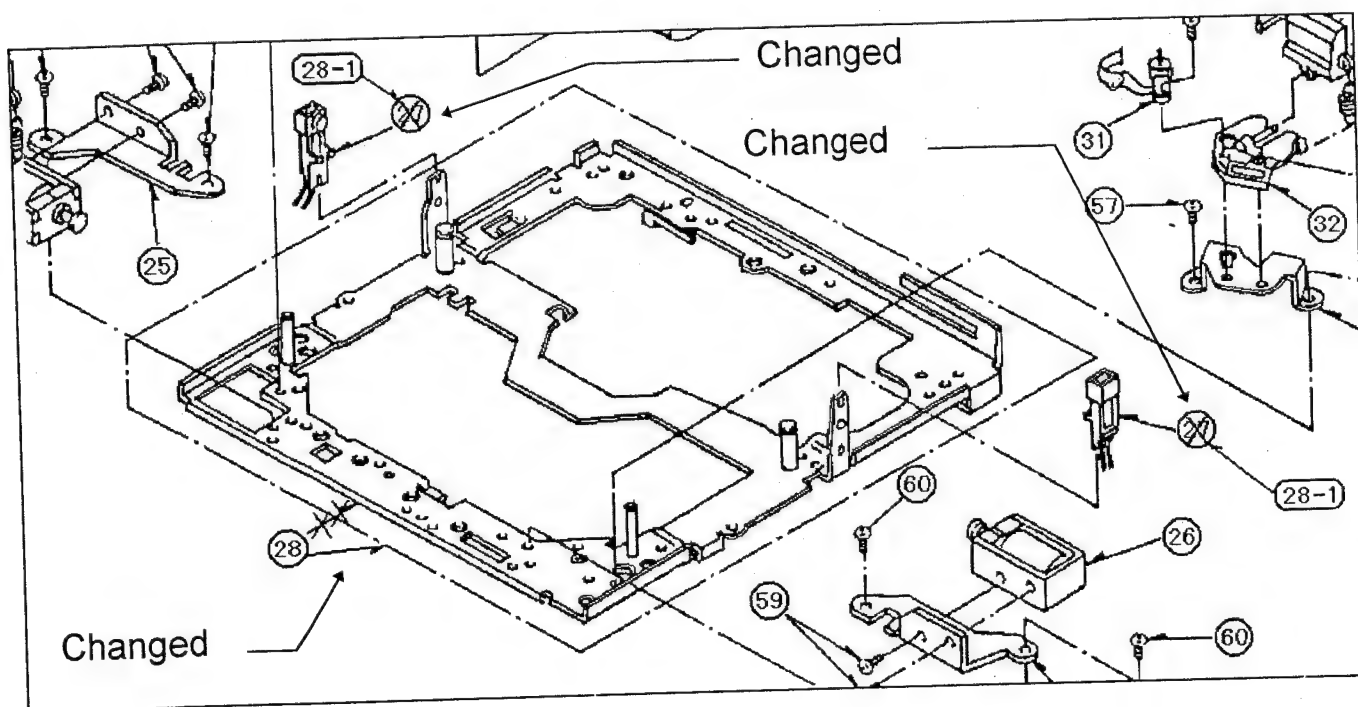
Broadcast Product

Subject : Service Manual Correction

Please use this supplement together with the Service Manual as follows :

Model No.
AJ-D200HEBulletin No.
2Order No.
VSD9708M604Effective from
—

Mechanical Chassis Assembly (1)



19921

Order No. VSD9709SE601

Technical Bulletin

Supplement to the Service Manual

Broadcast Product

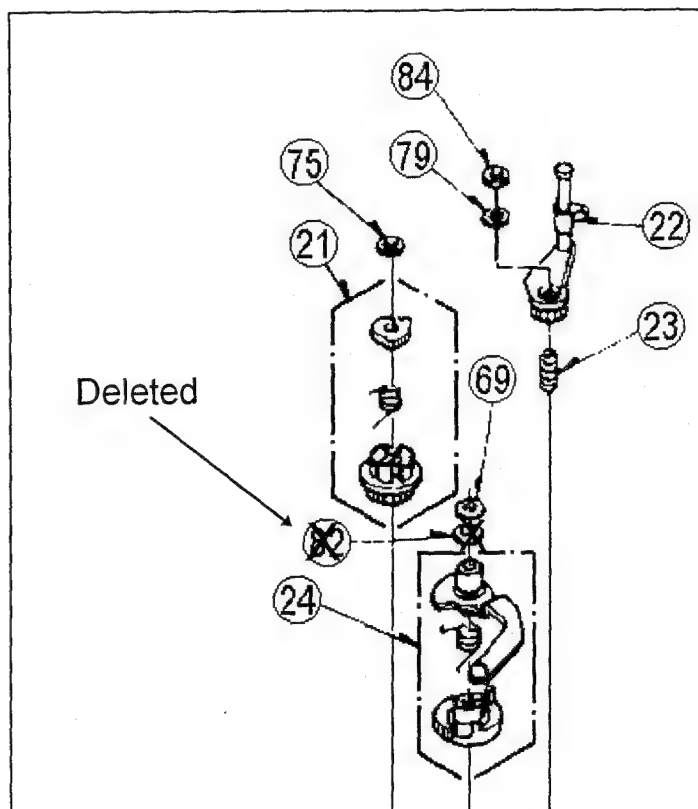
Subject : Service Manual Correction

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	1	VSD9708M604	---

Mechanical Chassis Assembly (2)

Part Number					
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
82	XWGV15Z32G	---	WASHER	1→0	


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Technical Bulletin

Supplement to the Service Manual

Broadcast Product

Subject : Improvement of Escutcheon Unit of View Finder

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AJ-D200HE	6	VSD9708M604A	I7TKA0001

Board : CRT Mask (VEP27090C)
EVF Assembly

Symptom : Smoke may occur from the Eye Piece Unit when the View Finder is left to be turning the Eye Piece toward the sun.

Cause : CRT Name Plate on the Escutcheon is burned by the sun.

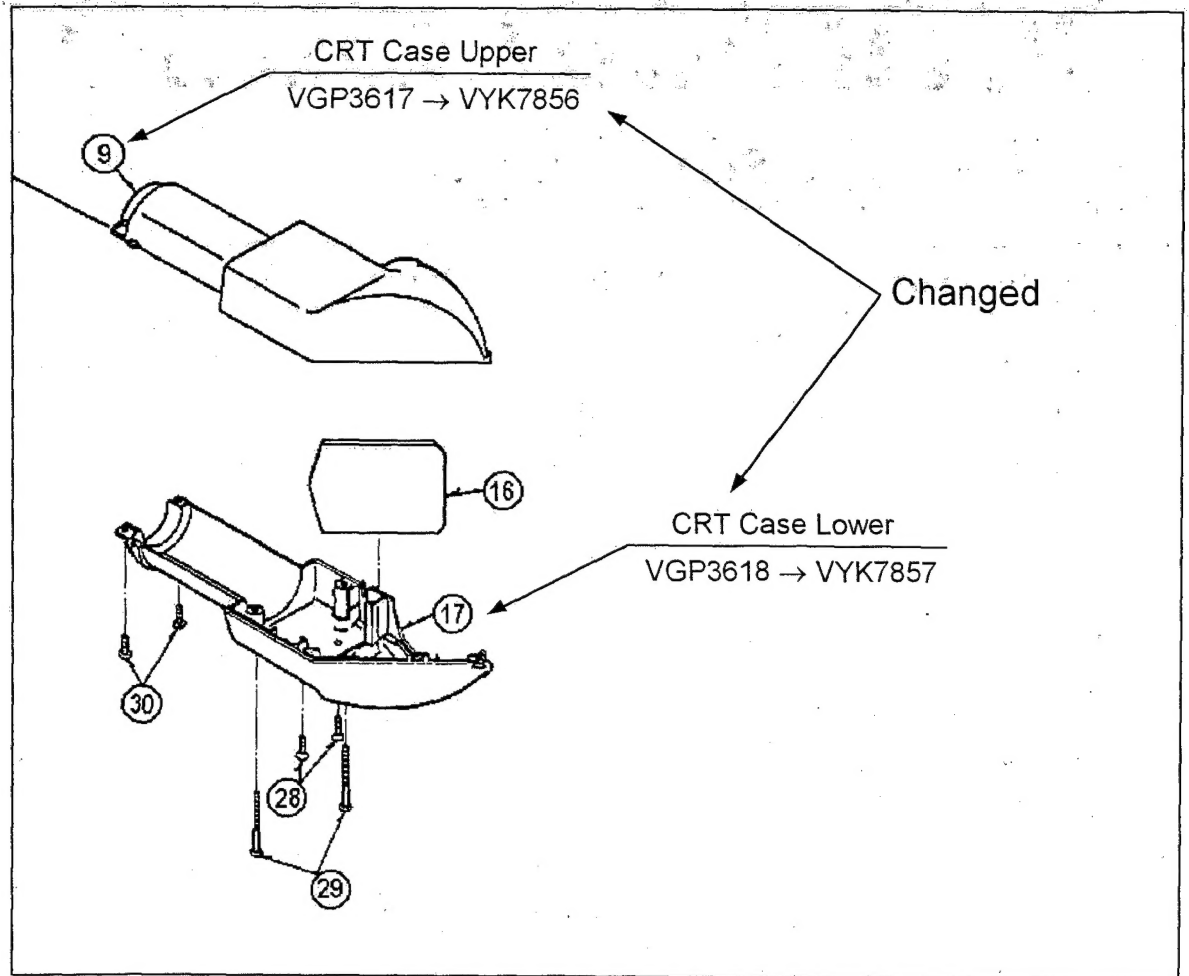
Remedy : To prevent it, the CRT Name Plate is added to the CRT Mask P.C. Board and CRT Case Protection Sheets are added to the upper and lower CRT Case as follows.

Part Number		Original Part No.	New Part No.	Part Name & Descriptions	Pcs	Remarks
Ref. No.						
9 17		VEP27090A	VEP27090C	CRT MASK P.C.BOARD	1	
		VGP3617	VYK7856	EVF ASSEMBLY	1	
		VGP3618	VYK7857	CRT CASE UPPER CRT CASE LOWER	1 1	

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